

APPENDIX A

TREATMENT UNIT CARDS

TREATMENT UNIT DESCRIPTIONS

The following section describes and displays the treatment units proposed for all action alternatives. These descriptions show the major attributes of each treatment unit and considerations used during unit design. The ID Team identified individual treatment units and recommended specific vegetative treatments to achieve the objective of the project. The development of this project used the best available science in planning, designing, and mitigating effects of the proposed activities. Unit descriptions show the major resource concerns associated with each treatment unit. Mitigations included in the unit descriptions identify actions either to be taken by the ID Team or actions to be taken during implementation.

The proposed activities includes wildlife and fisheries habitat improvement; aspen, jack pine, and red pine timber harvest treatments; fuels reduction projects; and non-native invasive plant (NNIP) species control on National Forest System lands in the County Line Project Area. The proposed activities vary by alternative. Table 2-1 on page 2-2 of Chapter 2 displays a summary comparison of the Proposed Action and the Action Alternatives, including the No Action Alternative.

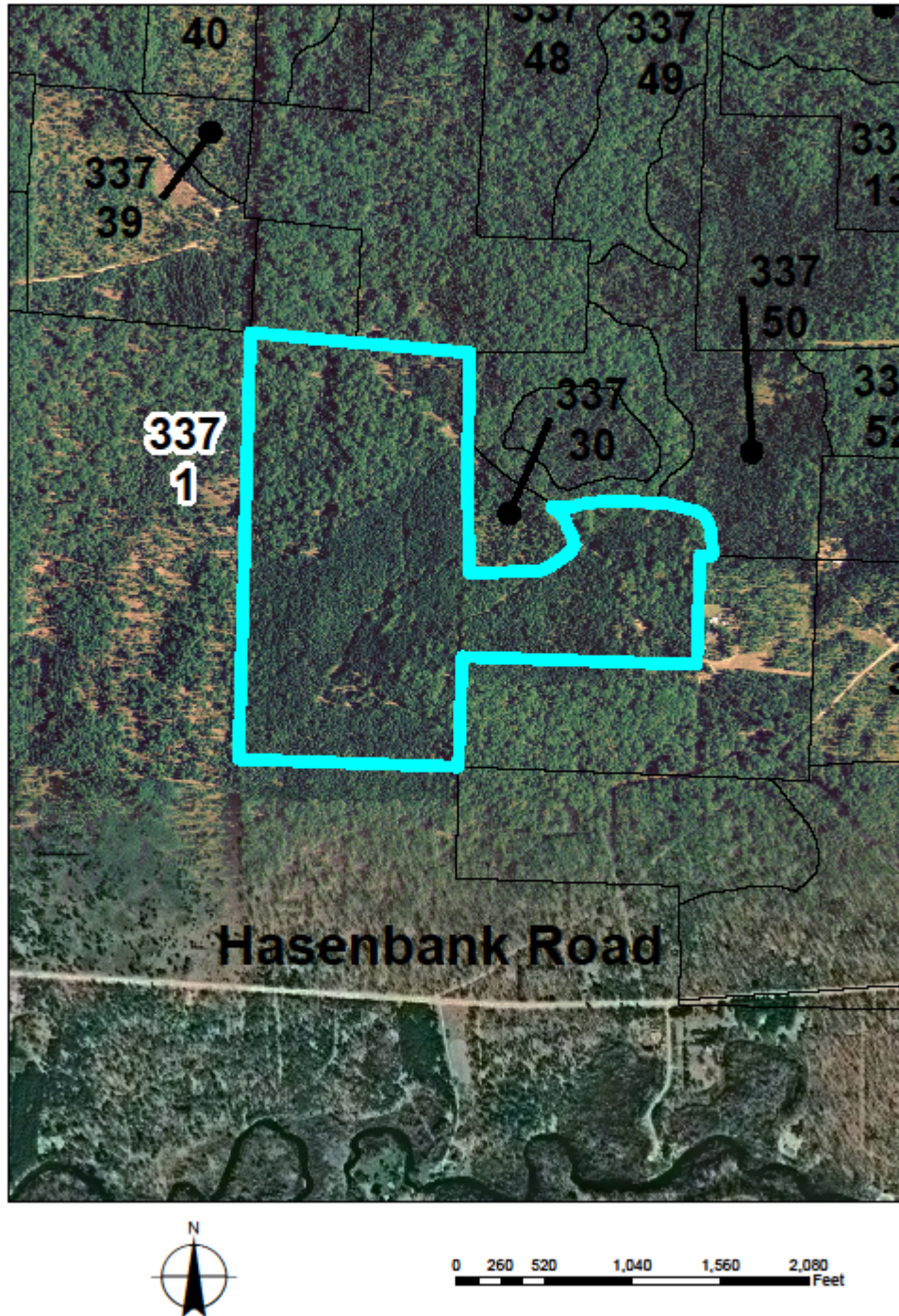
All of the proposed regeneration treatments, either in individual stands, combined stands, or combined regeneration treatments, would not exceed the 40 acre temporary opening limit.

NNIP control prescriptions are described in the following treatment units. In addition to control of these invasive species, additional invasive species are of concern in the Project Area, but occupy too large of a general area, and treatment is not considered cost-effective to achieve eradication or control. The NNIP species listed in the Treatment Unit Descriptions are considered Invasive Species of Concern. Equipment cleaning may be required before equipment is moved between different harvest units depending on NNIP species present. Equipment cleaning consists of removing seeds, soil, vegetative matter, and other debris that could contain or hold seeds. This information can be found in the Planning Record.

The vegetative treatment locations and acreages and road and trail locations and mileages under each alternative were estimated using Geographic Information System (GIS). The Forest Service uses the most current and complete data available. They may be: developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc. Using GIS products for purposes other than those for which they were created may yield inaccurate or misleading results. The Forest Service reserves the right to correct, update, modify, or replace GIS products without notification. The Forest Service will not be liable for any activity involving this information. Providers of other data should be consulted regarding the accuracy and scale of their data. For more information contact: GIS Coordinator; Huron-Manistee NF; 1755 S. Mitchell Street; Cadillac, MI 49601; (231)775-2421.

Treatment unit boundaries, road locations, and the proposed activities are based on the most current information available through field investigations, GIS information, maps and aerial photo review, and existing resource inventories. Prior to implementation, additional field inventories will be completed. Minor changes or modifications to the treatment units and landing sites are anticipated prior to or during implementation to address actual field conditions. These changes will be documented and filed in the Planning Record.

County Line Fuels Project Treatment Unit Card 1



Treatment Unit Card 1

Alternatives: 2
Compartment: 337
Stand: 1
Acreage Treated: 98

Treatment: Thin
District: Cadillac-Manistee
Location: T20N, R16W, Sec 13; Mason County
ELTP: 10, 12, 14

Unit Description: A red pine stand with a year of origin of 1967 and a basal area (BA) of 150. It is located on LTA 1 in Management Area 4.2.

Resource Prescription: Row thin and thin from below (without spacing consideration) to reduce density by approximately 30%; target 110-130 BA for all species. Remove all scotch pine. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

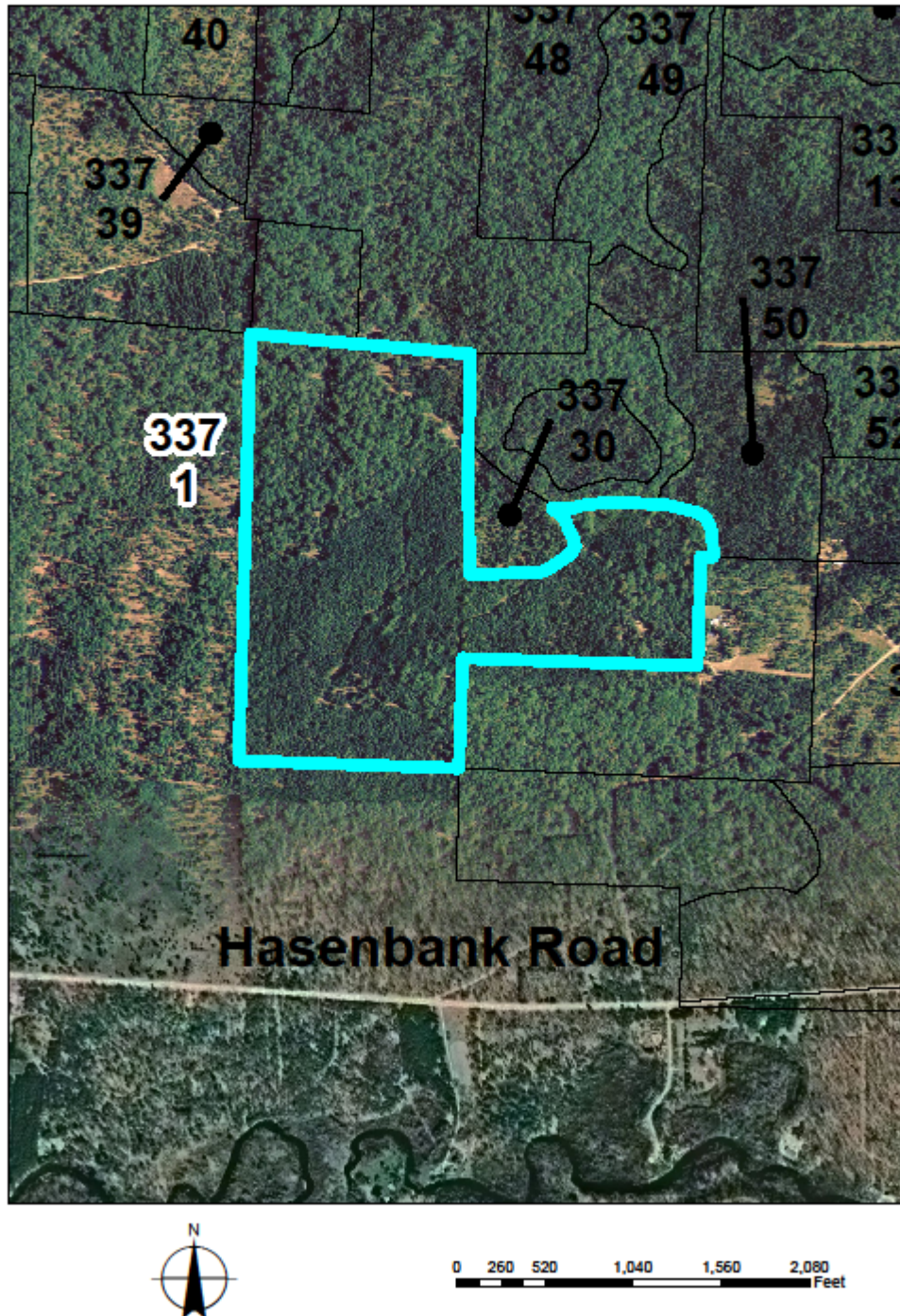
Concern: Protection of potential Indiana bats present during the breeding season.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut or removed unless considered a safety hazard.

Concern: Cultural resources found in stand.

Mitigation: Avoid cultural resource, which will be marked with a 20-30 meter flagged boundary prior to project initiation. If any unknown cultural resources are discovered during project activities for the proposed project or there is a change in location of the APE, then a professional Cultural Resources Specialist must be contacted. Project work will not be allowed to resume until the cultural resources have been documented and the sites are preserved from any potential impacts.

County Line Fuels Project Treatment Unit Card 1



Treatment Unit Card 1

Alternatives: 3, 4
Compartment: 337
Stand: 1
Acreage Treated: 98

Treatment: Thin; Broadcast burn
District: Cadillac-Manistee
Location: T20N, R16W, Sec 13; Mason County
ELTP: 10, 12, 14

Unit Description: A red pine stand with a year of origin of 1967 and a basal area (BA) of 150. It is located on LTA 1 in Management Area 4.2.

Resource Prescription: Row thin and thin from below (without spacing consideration) to reduce density by approximately 30%; target 110-130 BA for all species. Remove all jack and scotch pine. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Fuels Prescription: A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to reduce fuel loading, reduce ladder fuels and to maintain a more open condition to reduce the possibility of catastrophic wildfire. The prescribed burn should reduce 1 hour fuels 75% (10-90%), 10 hour fuels 50% (5-80% range), 100 hour fuels 35% (10-70% range), and 1000 hour fuels 10% (0-40% range). Exposed mineral soil would occur on no more than 15% of the stand. Over all tree mortality in the residual stand should not exceed 15%. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

Concern: Protection of potential Indiana bats present during the breeding season.

Mitigation: Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

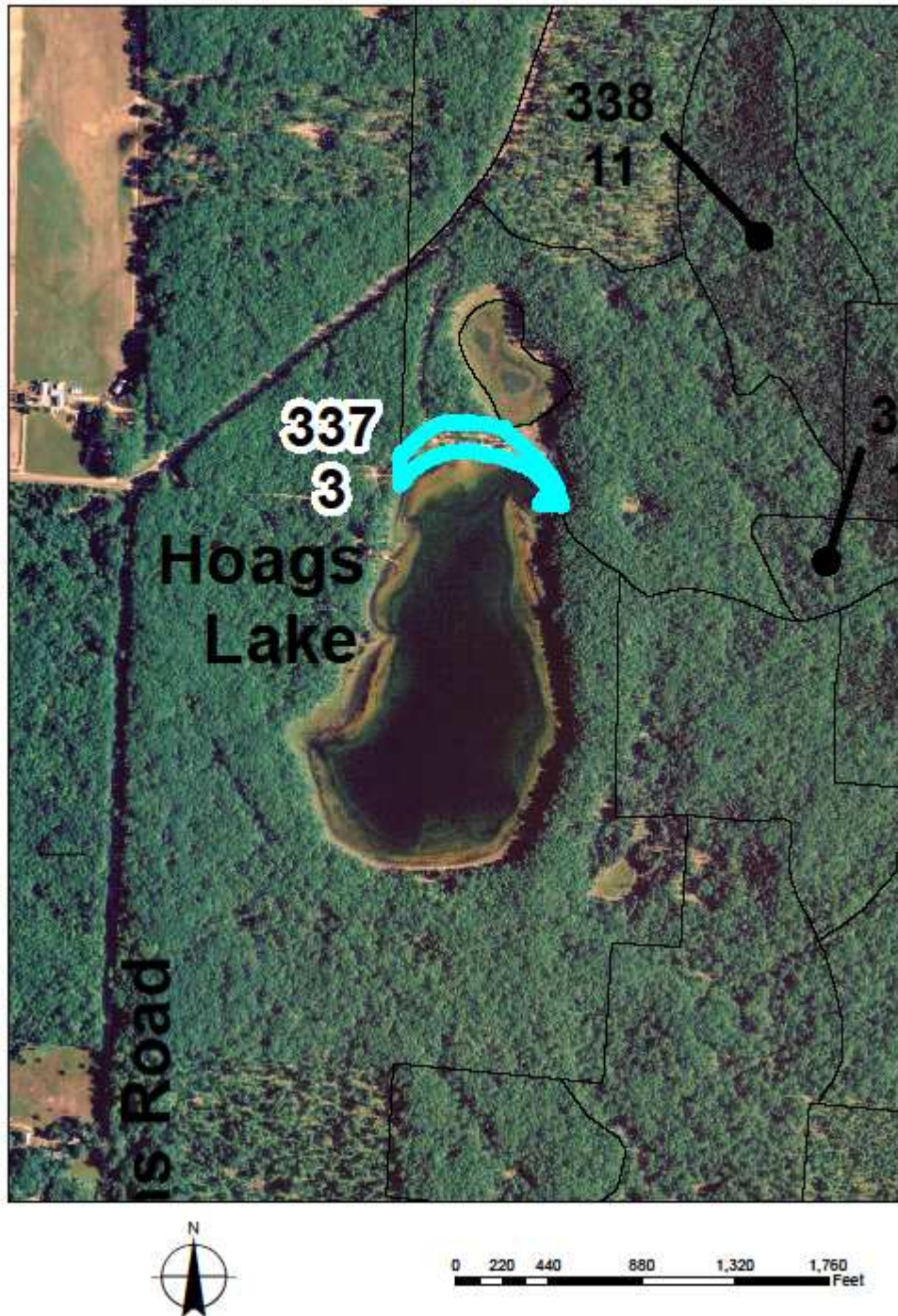
Concern: Protection of bald eagle nesting areas.

Mitigation: Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.

Concern: Cultural resources found in stand.

Mitigation: Avoid cultural resource, which will be marked with a 20-30 meter flagged boundary prior to project initiation. If any unknown cultural resources are discovered during project activities for the proposed project or there is a change in location of the APE, then a professional Cultural Resources Specialist must be contacted. Project work will not be allowed to resume until the cultural resources have been documented and the sites are preserved from any potential impacts.

County Line Fuels Project Treatment Unit Card 2

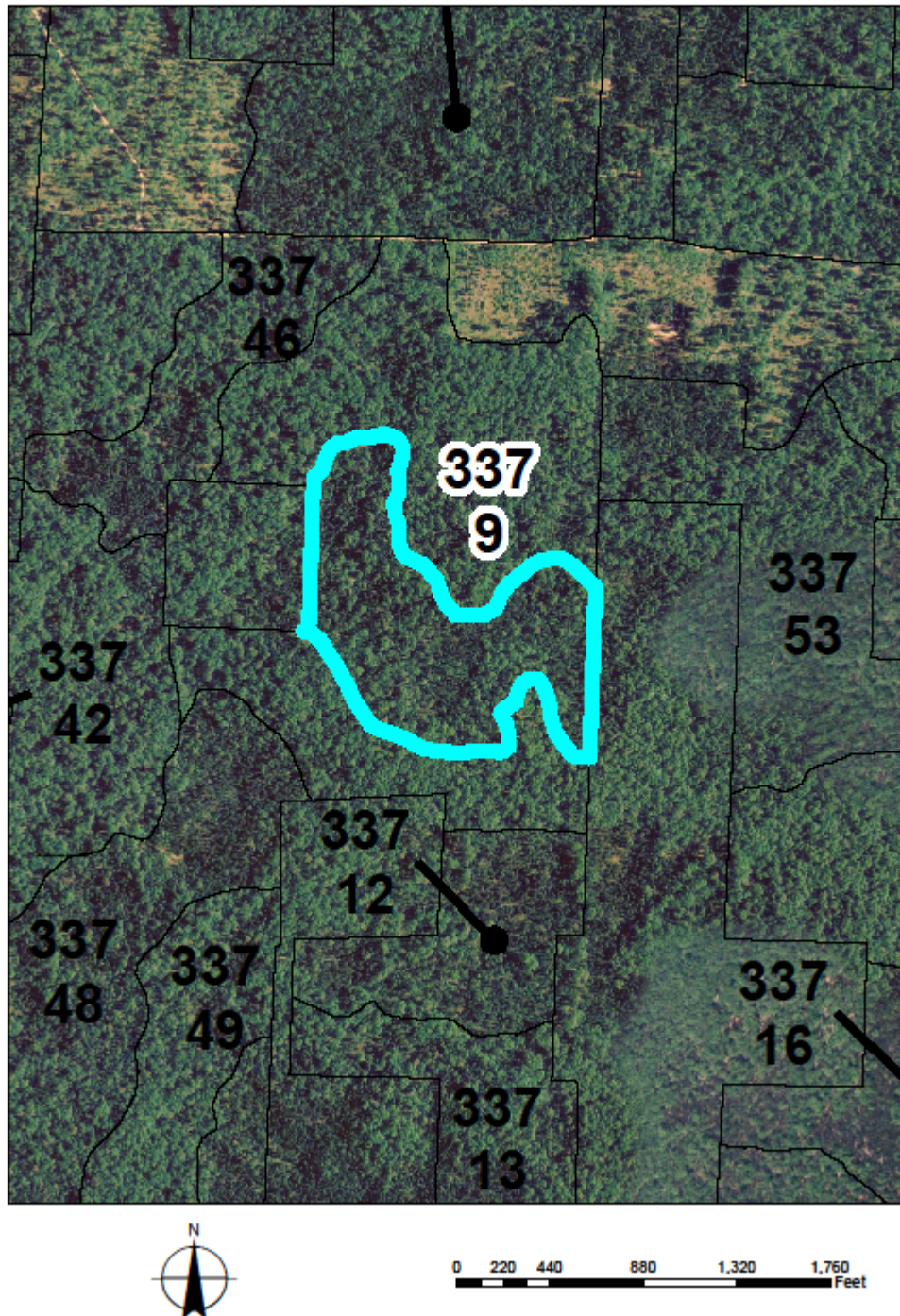


Treatment Unit Card 2**Alternatives:** 2, 3, 4**Compartment:** 337**Stand:** 3**Acreage Treated:** 2**Treatment:** Fish habitat improvement**District:** Cadillac-Manistee**Location:** T20N, R16W, Sec 2, 11; Mason County**ELTP:** 20

Unit Description: A mixed oak stand with a year of origin of 1900 and a basal area (BA) of 70. It is located on LTA 1 in Management Area 4.2.

Wildlife Prescription: Place brush and woody debris into Hoags Lake to enhance structure in lake and improve fish habitat. The priority is to use the scotch pine present in the stand as woody debris.

County Line Fuels Project Treatment Unit Card 3



Treatment Unit Card 3

Alternatives: 2

Compartment: 337

Stand: 9

Acreage Treated: 26

Treatment: Sanitation; Pile and burn

District: Cadillac-Manistee

Location: T20N, R16W, Sec 12; Mason County

ELTP: 10

Unit Description: A jack pine-oak stand with a year of origin of 1905 and a basal area (BA) of 60. It is located on LTA 5 in Management Area 4.2.

Resource Prescription: Remove decadent/high risk jack pine; retain a minimum of 40 BA of trees >5" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Fuels Prescription: Machine pile material resulting from sanitation cut throughout the stand. Piles can vary in size and where possible should not be placed under overstory trees.

Burn the piles created during machine piling. This would take place when long range weather forecasts would insure that fire does not spread from the piles to adjacent land, usually late fall and winter.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

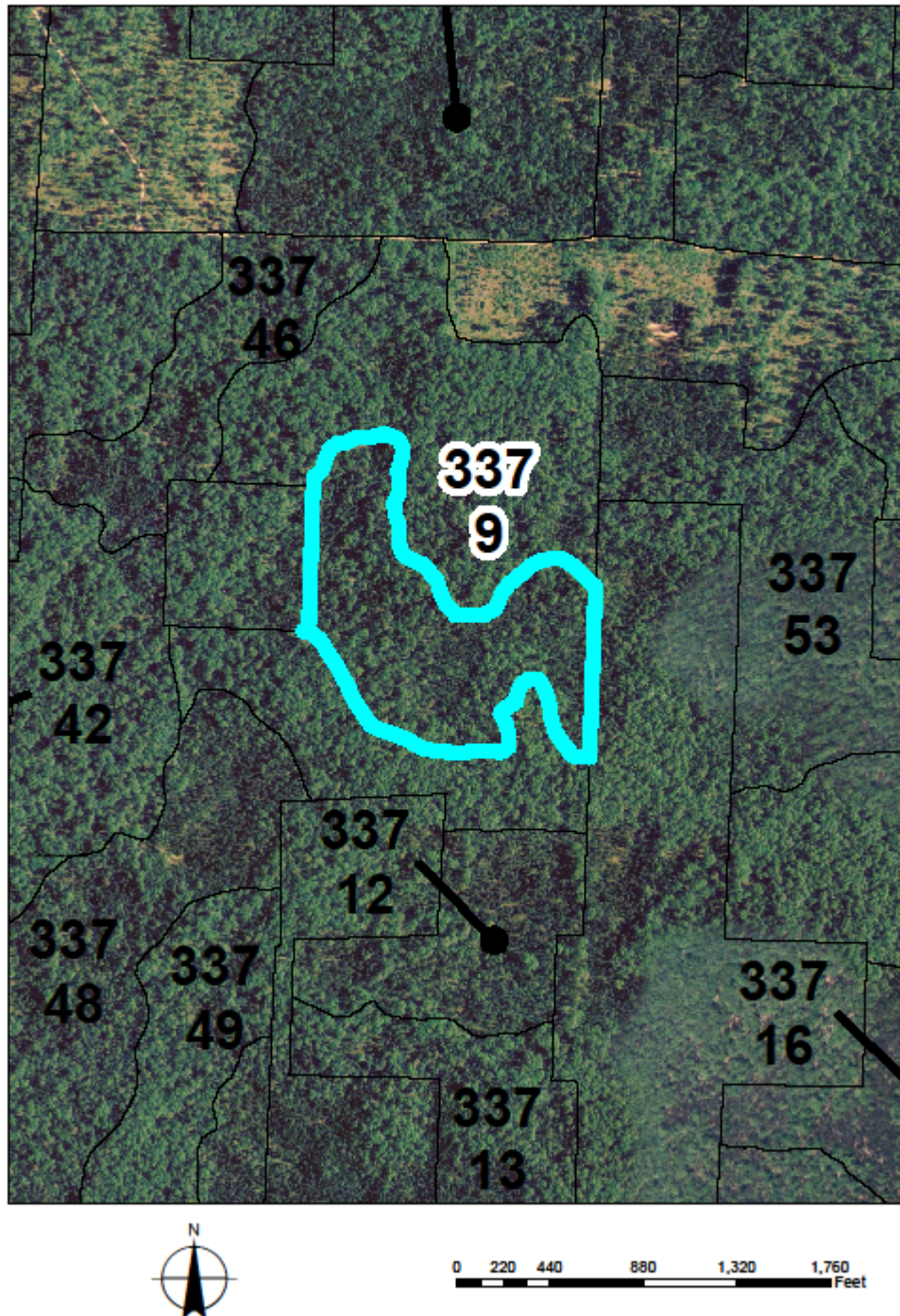
Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

Concern: Protection of bald eagle nesting areas.

Mitigation: Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.

County Line Fuels Project Treatment Unit Card 3



Treatment Unit Card 3

Alternatives: 3

Compartment: 337

Stand: 9

Acreage Treated: 26

Treatment: Barren restoration; Broadcast burn

District: Cadillac-Manistee

Location: T20N, R16W, Sec 12; Mason County

ELTP: 10

Unit Description: A jack pine-oak stand with a year of origin of 1905 and a basal area (BA) of 60. It is located on LTA 5 in Management Area 4.2.

Resource Prescription: Thin to 20-30 BA; retain all oak with a dbh >8"; reduce conifer activity fuel by 95%; allow tree length skidding and complete topwood utilization. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

This stand would be moved from a land suitability classification (LSC) 500 to an LSC 600, removing the stand from the Forests' timber base.

Fuels Prescription: A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to reduce fuel loading, reduce ladder fuels and to maintain a more open condition to reduce the possibility of catastrophic wildfire. The prescribed burn should reduce 1 hour fuels 75% (10-90%), 10 hour fuels 50% (5-80% range), 100 hour fuels 35% (10-70% range), and 1000 hour fuels 10% (0-40% range). Exposed mineral soil would occur on no more than 15% of the stand. Over all tree mortality in the residual stand should not exceed 15%. Manage smoke to minimize impacts to smoke sensitive areas.

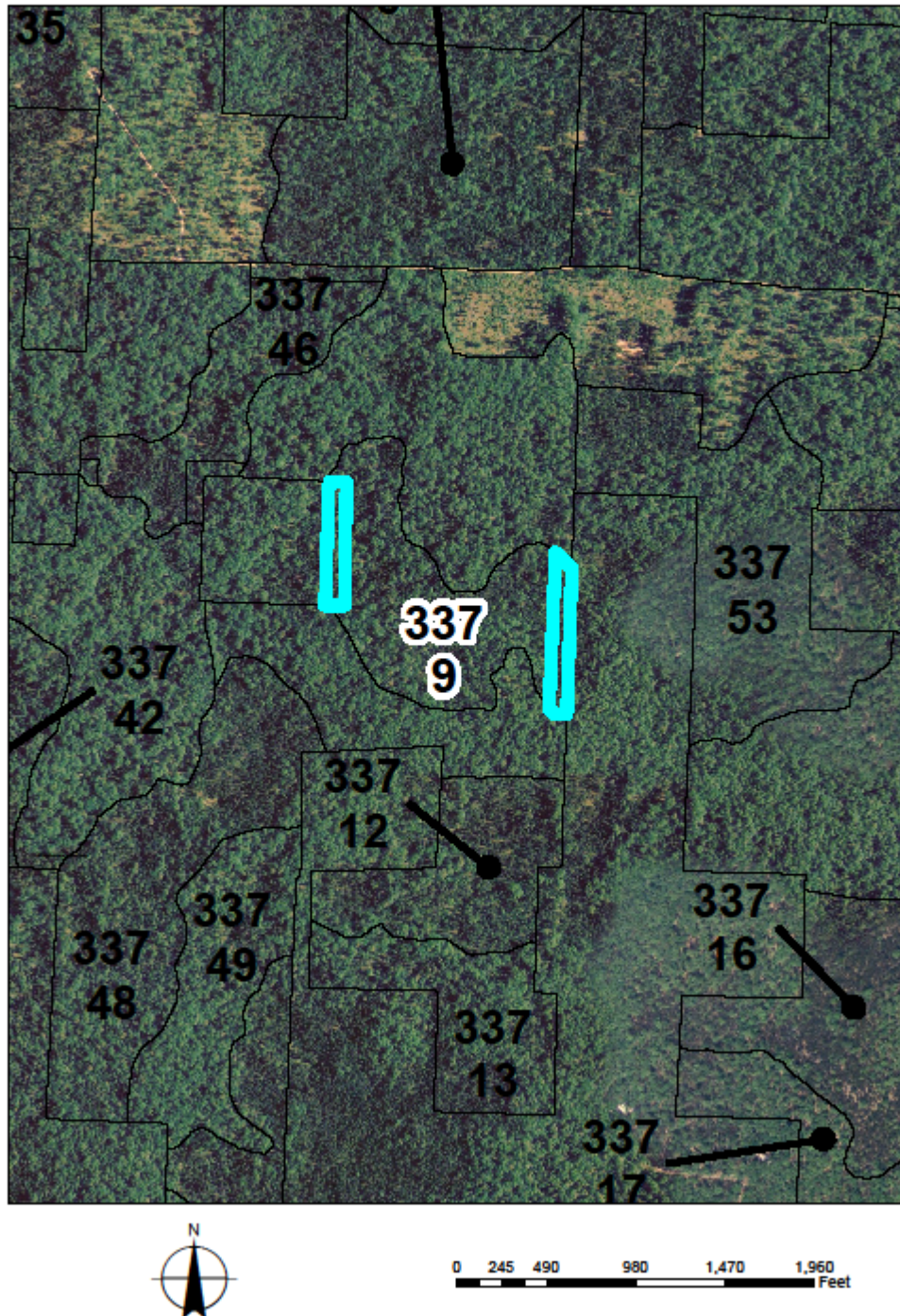
A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

County Line Fuels Project Treatment Unit Card 3



Treatment Unit Card 3

Alternatives: 4
Compartment: 337
Stand: 9
Acreage Treated: 3

Treatment: Fuelbreak; Pile and burn
District: Cadillac-Manistee
Location: T20N, R16W, Sec 12; Mason County
ELTP: 10

Unit Description: A jack pine-oak stand with a year of origin of 1905 and a basal area (BA) of 60. It is located on LTA 5 in Management Area 4.2.

Fuels Prescription: Cut decadent hardwoods and all conifers within 100' of private property, road. Break up all fuel concentrations that appear to pose a threat. These fuels would then be piled within the fuelbreak corridor. Piles can vary in size and should not be placed under overstory trees. All healthy hardwood overstory trees and hardwood regeneration would be retained. Burn the piles created during fuelbreak construction. This would take place when long range weather forecasts, usually late fall or winter, insure that fire does not spread from the piles to adjacent land. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

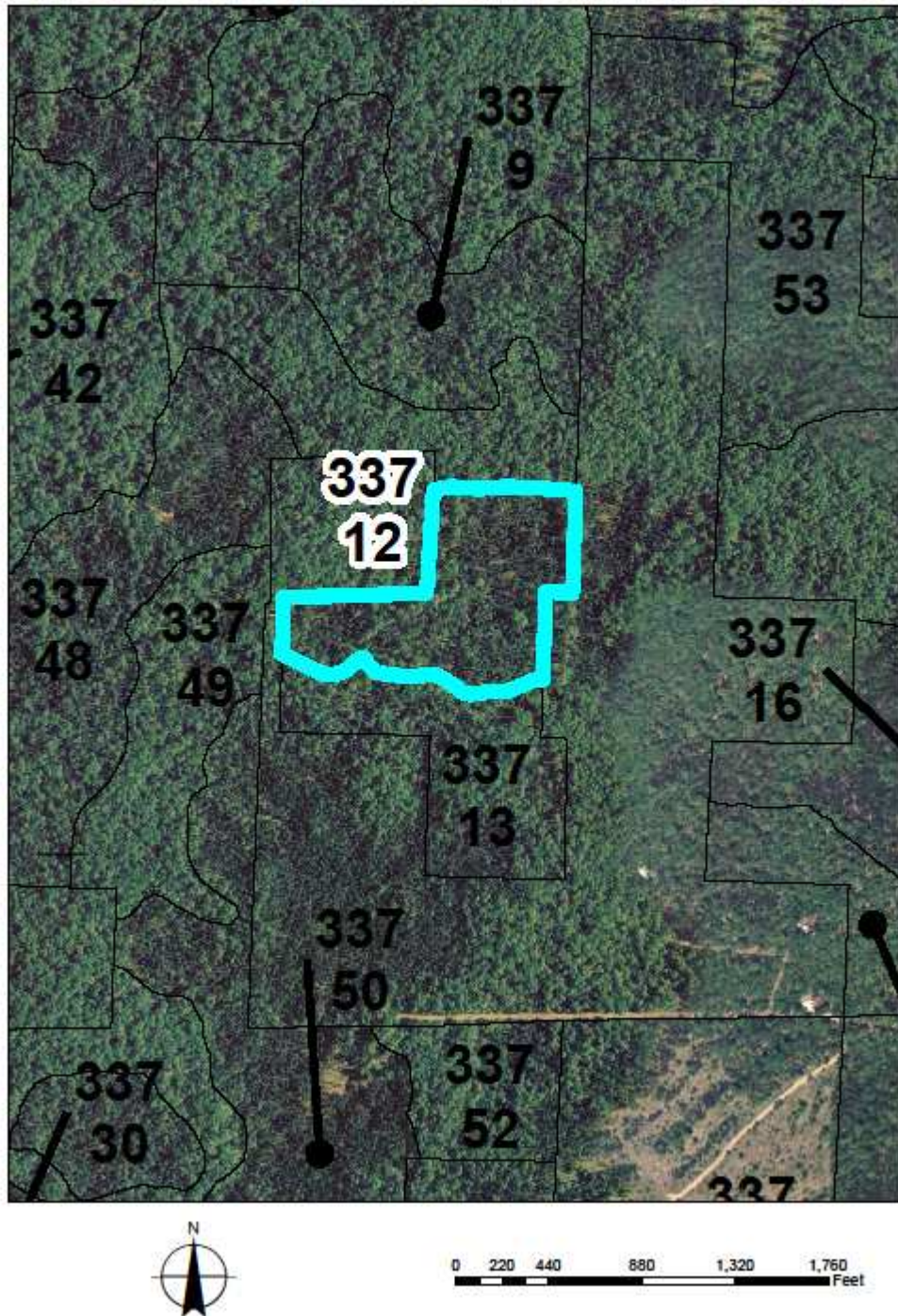
Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

Concern: Protection of bald eagle nesting areas.

Mitigation: Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.

County Line Fuels Project Treatment Unit Card 4



Treatment Unit Card 4

Alternatives: 2, 4
Compartment: 337
Stand: 12
Acreage Treated: 19

Treatment: Clearcut; Site prep
District: Cadillac-Manistee
Location: T20N, R16W, Sec 12; Mason County
ELTP: 10

Unit Description: A jack pine stand with a year of origin of 1945 and a basal area (BA) of 70. It is located on LTA 1 in Management Area 4.2.

Resource Prescription: Retain 10-20 oaks/acre >9" dbh. Remove all scotch pine. Site prep for natural regeneration all jack pine and oak <5" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

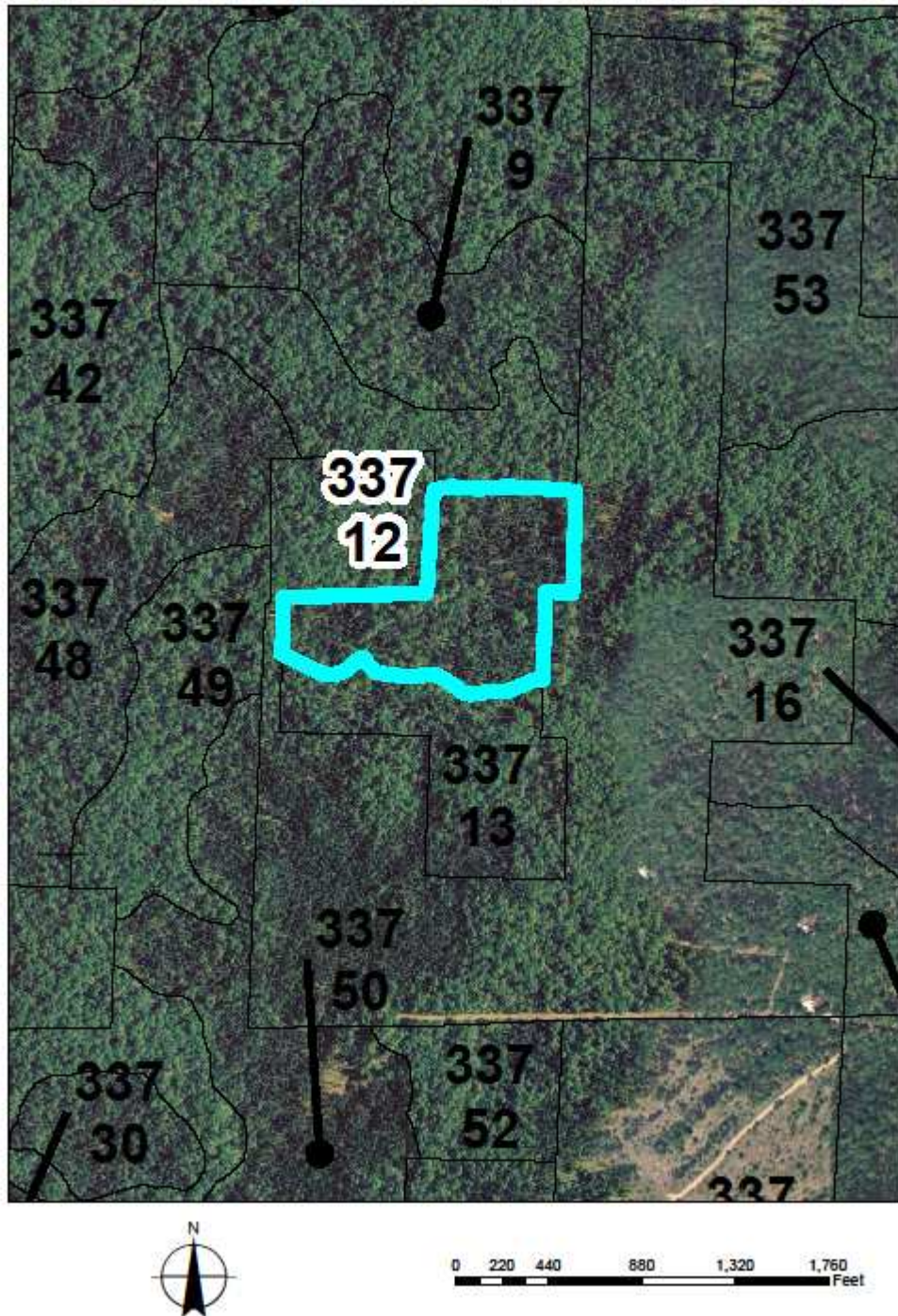
Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25).

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

Concern: Cultural resources found in stand.

Mitigation: Avoid cultural resource, which will be marked with a 20-30 meter flagged boundary prior to project initiation. If any unknown cultural resources are discovered during project activities for the proposed project or there is a change in location of the APE, then a professional Cultural Resources Specialist must be contacted. Project work will not be allowed to resume until the cultural resources have been documented and the sites are preserved from any potential impacts.

County Line Fuels Project Treatment Unit Card 4



Treatment Unit Card 4

Alternatives: 3

Compartment: 337

Stand: 12

Acreage Treated: 19

Treatment: Shelterwood; Site prep

District: Cadillac-Manistee

Location: T20N, R16W, Sec 12; Mason County

ELTP: 10

Unit Description: A jack pine stand with a year of origin of 1945 and a basal area (BA) of 70. It is located on LTA 1 in Management Area 4.2.

Resource Prescription: Shelterwood removal cut harvest; remove decadent/high risk jack pine and oak <8" dbh. Site prep for natural regeneration by hand tool felling of all jack pine and oak <5" dbh. Retain a minimum of 30 BA of oak and pine >8" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

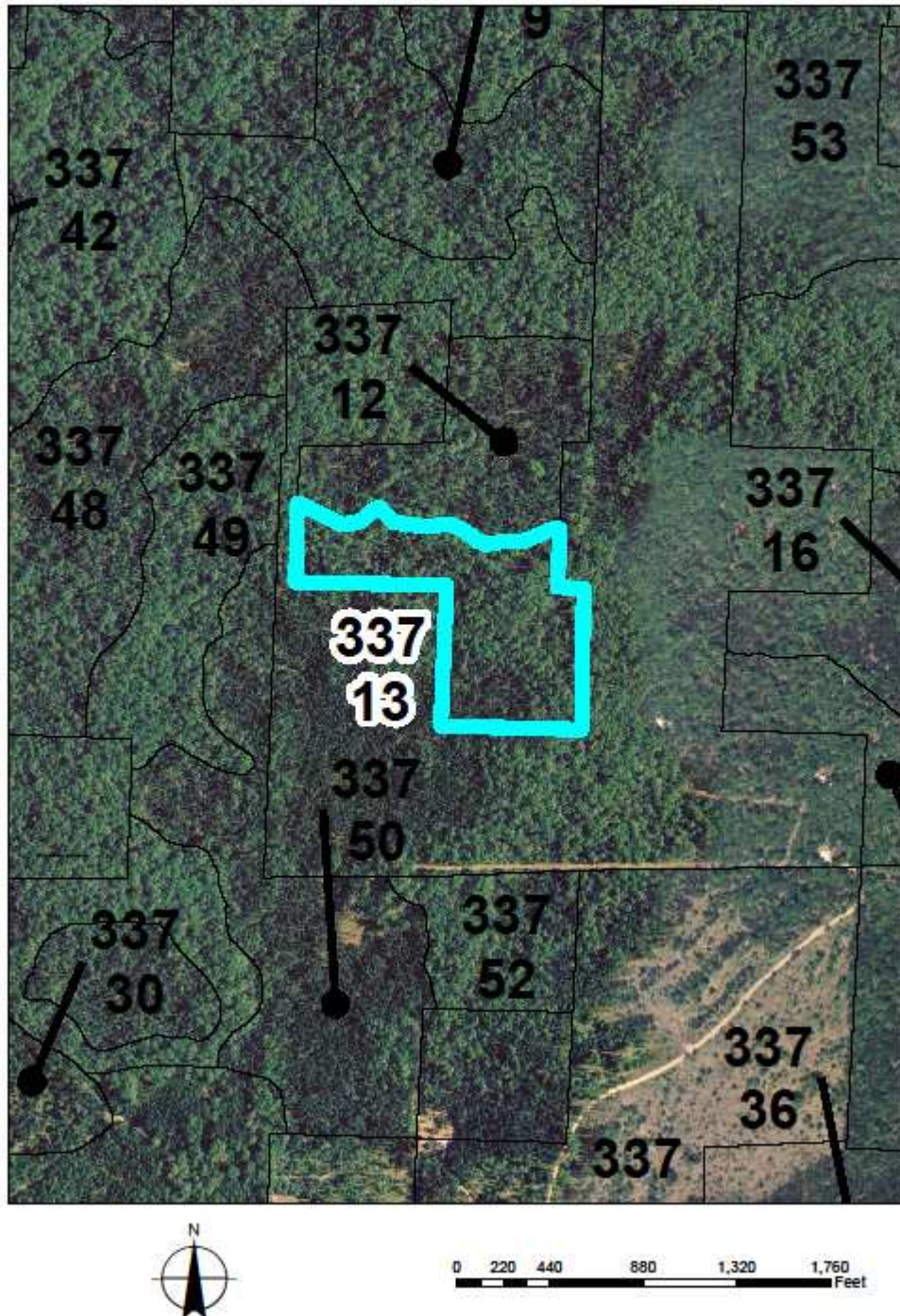
Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25).

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

Concern: Cultural resources found in stand.

Mitigation: Avoid cultural resource, which will be marked with a 20-30 meter flagged boundary prior to project initiation. If any unknown cultural resources are discovered during project activities for the proposed project or there is a change in location of the APE, then a professional Cultural Resources Specialist must be contacted. Project work will not be allowed to resume until the cultural resources have been documented and the sites are preserved from any potential impacts.

County Line Fuels Project Treatment Unit Card 5



Treatment Unit Card 5

Alternatives: 2

Compartment: 337

Stand: 13

Acreage Treated: 18

Treatment: Sanitation; Pile and burn

District: Cadillac-Manistee

Location: T20N, R16W, Sec 12; Mason County

ELTP: 10

Unit Description: A jack pine-oak stand with a year of origin of 1930 and a basal area (BA) of 80. It is located on LTA 1 in Management Area 4.2.

Resource Prescription: Remove decadent/high risk jack pine; retain a minimum of 40 BA of trees >5" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Fuels Prescription: Machine pile material resulting from sanitation cut throughout the stand. Piles can vary in size and where possible should not be placed under overstory trees.

Burn the piles created during machine piling. This would take place when long range weather forecasts would insure that fire does not spread from the piles to adjacent land, usually late fall and winter.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

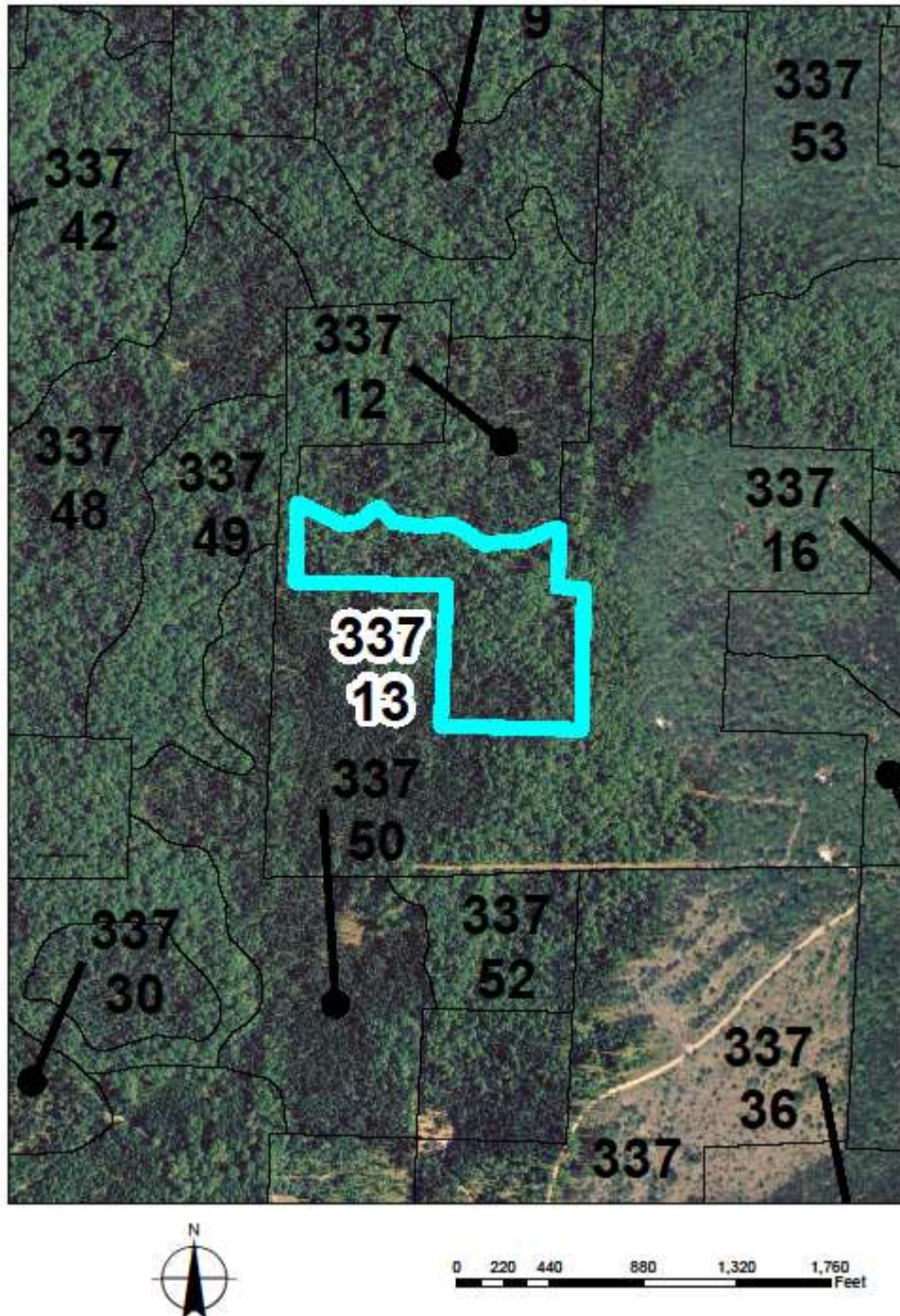
Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

Concern: Protection of bald eagle nesting areas.

Mitigation: Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.

County Line Fuels Project Treatment Unit Card 5



Treatment Unit Card 5

Alternatives: 3

Compartment: 337

Stand: 13

Acreage Treated: 18

Treatment: Shelterwood; Site prep

District: Cadillac-Manistee

Location: T20N, R16W, Sec 12; Mason County

ELTP: 10

Unit Description: A jack pine-oak stand with a year of origin of 1930 and a basal area (BA) of 80. It is located on LTA 1 in Management Area 4.2.

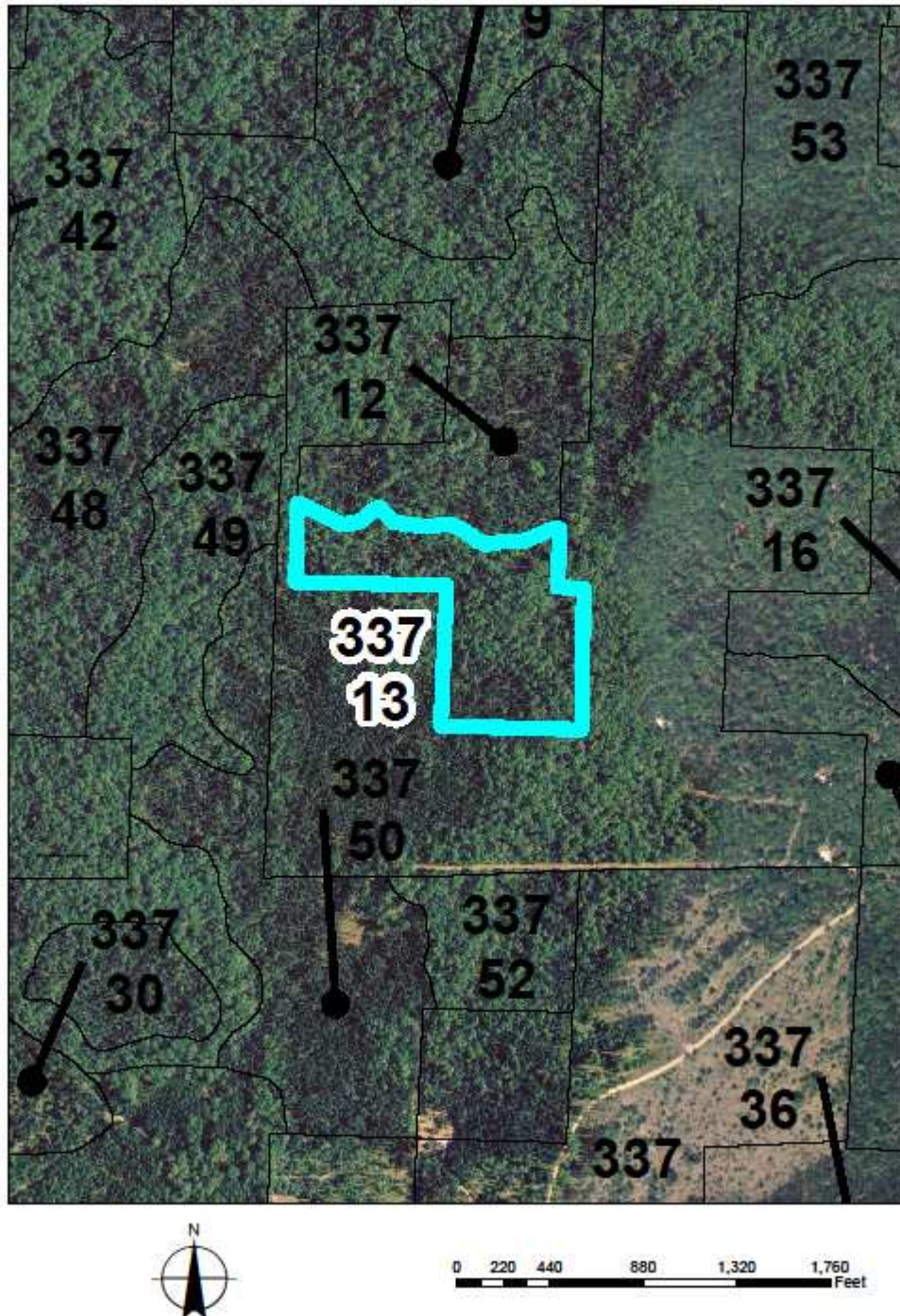
Resource Prescription: Shelterwood removal cut harvest; remove decadent/high risk jack pine and oak <8" dbh. Site prep for natural regeneration by hand tool felling of all jack pine and oak <5" dbh. Retain a minimum of 30 BA of oak and pine >8" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

County Line Fuels Project Treatment Unit Card 5



Treatment Unit Card 5**Alternatives:** 4**Compartment:** 337**Stand:** 13**Acreage Treated:** 18**Treatment:** Clearcut; Site prep**District:** Cadillac-Manistee**Location:** T20N, R16W, Sec 12; Mason County**ELTP:** 10

Unit Description: A jack pine-oak stand with a year of origin of 1930 and a basal area (BA) of 80. It is located on LTA 1 in Management Area 4.2.

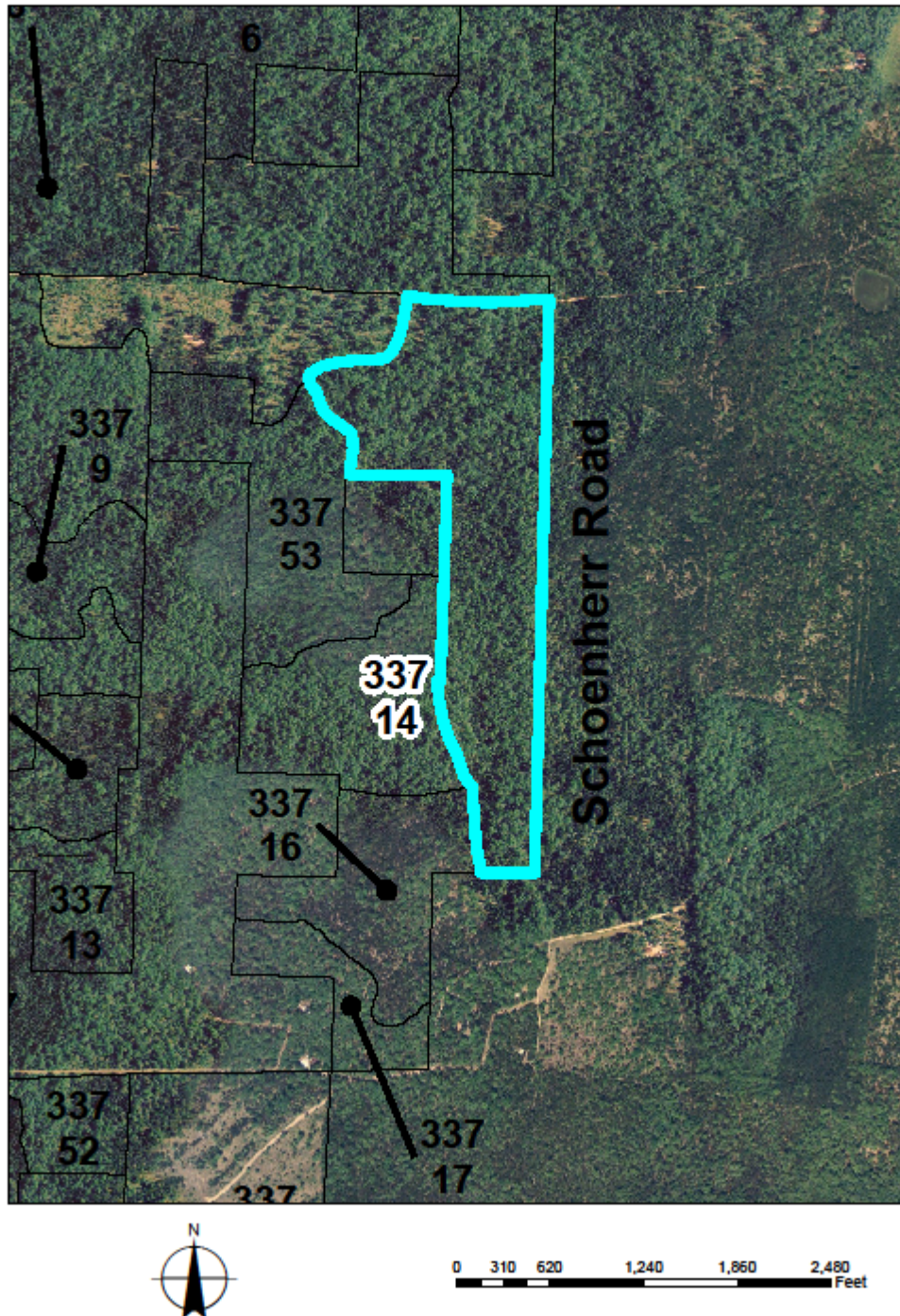
Resource Prescription: Retain 10-20 oaks/acre >9" dbh. Site prep for natural regeneration all jack pine and oak <5" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

County Line Fuels Project Treatment Unit Card 6



Treatment Unit Card 6

Alternatives: 2

Compartment: 337

Stand: 14

Acreage Treated: 68

Treatment: Sanitation; Pile and burn

District: Cadillac-Manistee

Location: T20N, R16W, Sec 12; Mason County

ELTP: 10

Unit Description: A jack pine-oak stand with a year of origin of 1920 and a basal area (BA) of 80. It is located on LTA 1 in Management Area 4.2.

Resource Prescription: Remove decadent/high risk jack pine; retain a minimum of 40 BA of trees >5" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Fuels Prescription: Machine pile material resulting from sanitation cut throughout the stand. Piles can vary in size and where possible should not be placed under overstory trees.

Burn the piles created during machine piling. This would take place when long range weather forecasts would insure that fire does not spread from the piles to adjacent land, usually late fall and winter.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

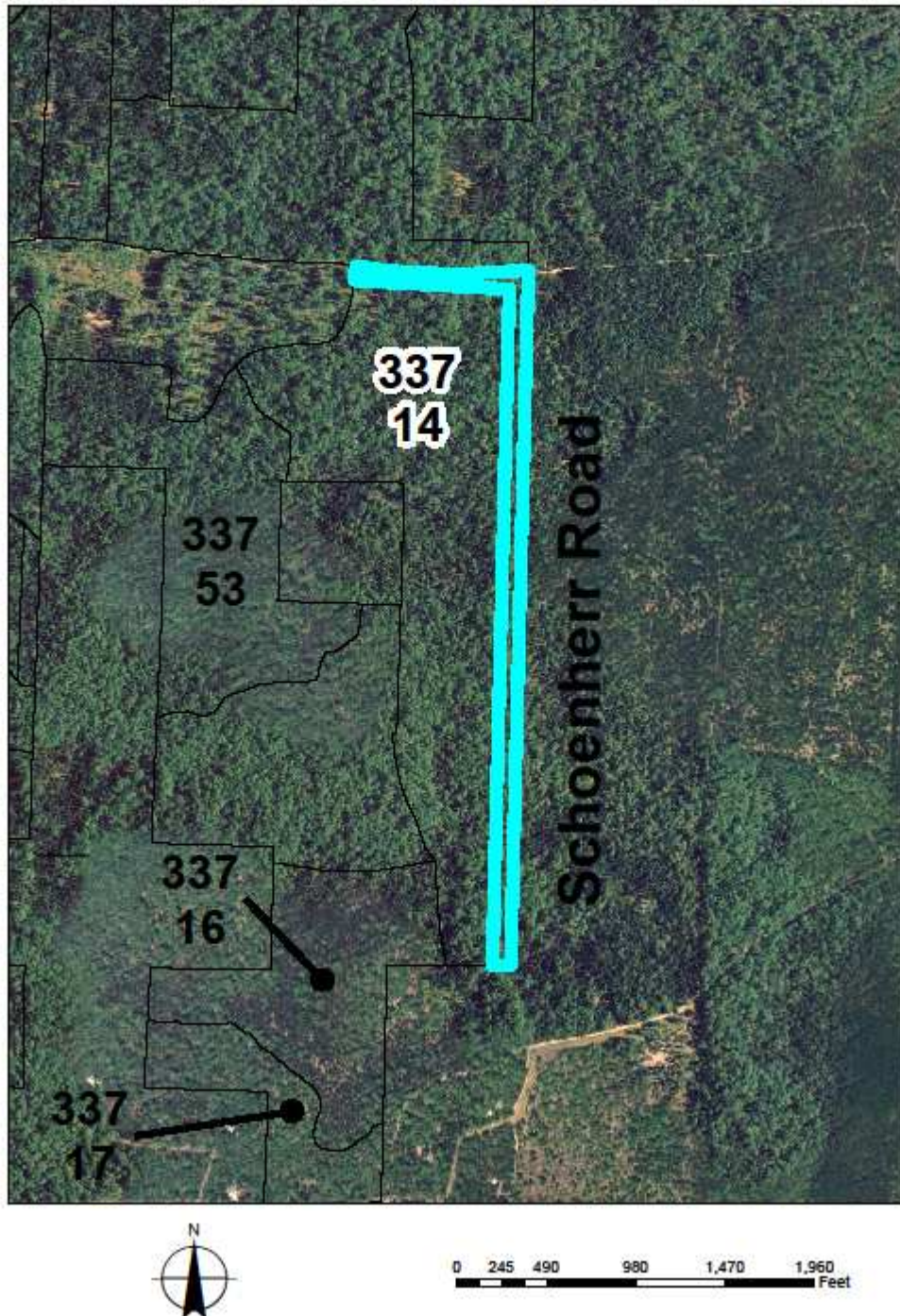
Concern: Protection of bald eagle nesting areas.

Mitigation: Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.

Concern: Cultural resources found in stand.

Mitigation: Avoid cultural resource, which will be marked with a 20-30 meter flagged boundary prior to project initiation. If any unknown cultural resources are discovered during project activities for the proposed project or there is a change in location of the APE, then a professional Cultural Resources Specialist must be contacted. Project work will not be allowed to resume until the cultural resources have been documented and the sites are preserved from any potential impacts.

County Line Fuels Project Treatment Unit Card 6



Treatment Unit Card 6

Alternatives: 4
Compartment: 337
Stand: 14
Acreage Treated: 10

Treatment: Fuelbreak; Pile and burn
District: Cadillac-Manistee
Location: T20N, R16W, Sec 12; Mason County
ELTP: 10

Unit Description: A jack pine-oak stand with a year of origin of 1920 and a basal area (BA) of 80. It is located on LTA 1 in Management Area 4.2.

Fuels Prescription: Cut decadent hardwoods and all conifers within 100' of road. Break up all fuel concentrations that appear to pose a threat. These fuels would then be piled within the fuelbreak corridor. Piles can vary in size and should not be placed under overstory trees. All healthy hardwood overstory trees and hardwood regeneration would be retained. Burn the piles created during fuelbreak construction. This would take place when long range weather forecasts, usually late fall or winter, insure that fire does not spread from the piles to adjacent land. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

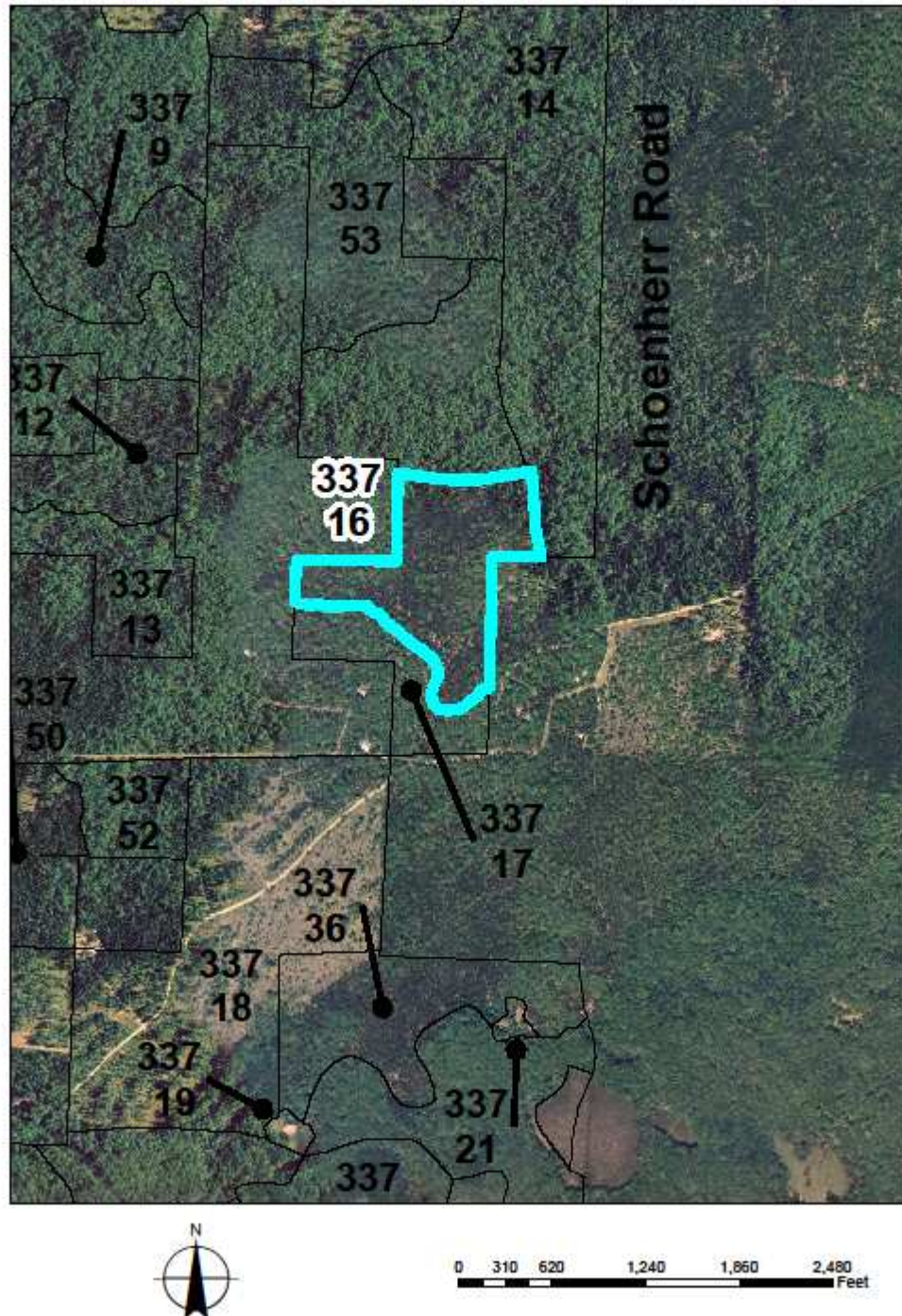
Concern: Protection of bald eagle nesting areas.

Mitigation: Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.

Concern: Cultural resources found in stand.

Mitigation: Avoid cultural resource, which will be marked with a 20-30 meter flagged boundary prior to project initiation. If any unknown cultural resources are discovered during project activities for the proposed project or there is a change in location of the APE, then a professional Cultural Resources Specialist must be contacted. Project work will not be allowed to resume until the cultural resources have been documented and the sites are preserved from any potential impacts.

County Line Fuels Project Treatment Unit Card 7



Treatment Unit Card 7

Alternatives: 2, 4
Compartment: 337
Stand: 16
Acreage Treated: 28

Treatment: Clearcut; Site prep
District: Cadillac-Manistee
Location: T20N, R16W, Sec 12; Mason County
ELTP: 10

Unit Description: A jack pine stand with a year of origin of 1940 and a basal area (BA) of 60. It is located on LTA 1 in Management Area 4.2.

Resource Prescription: Retain 10-20 oaks/acre >9" dbh. Site prep for natural regeneration all jack pine and oak <5" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

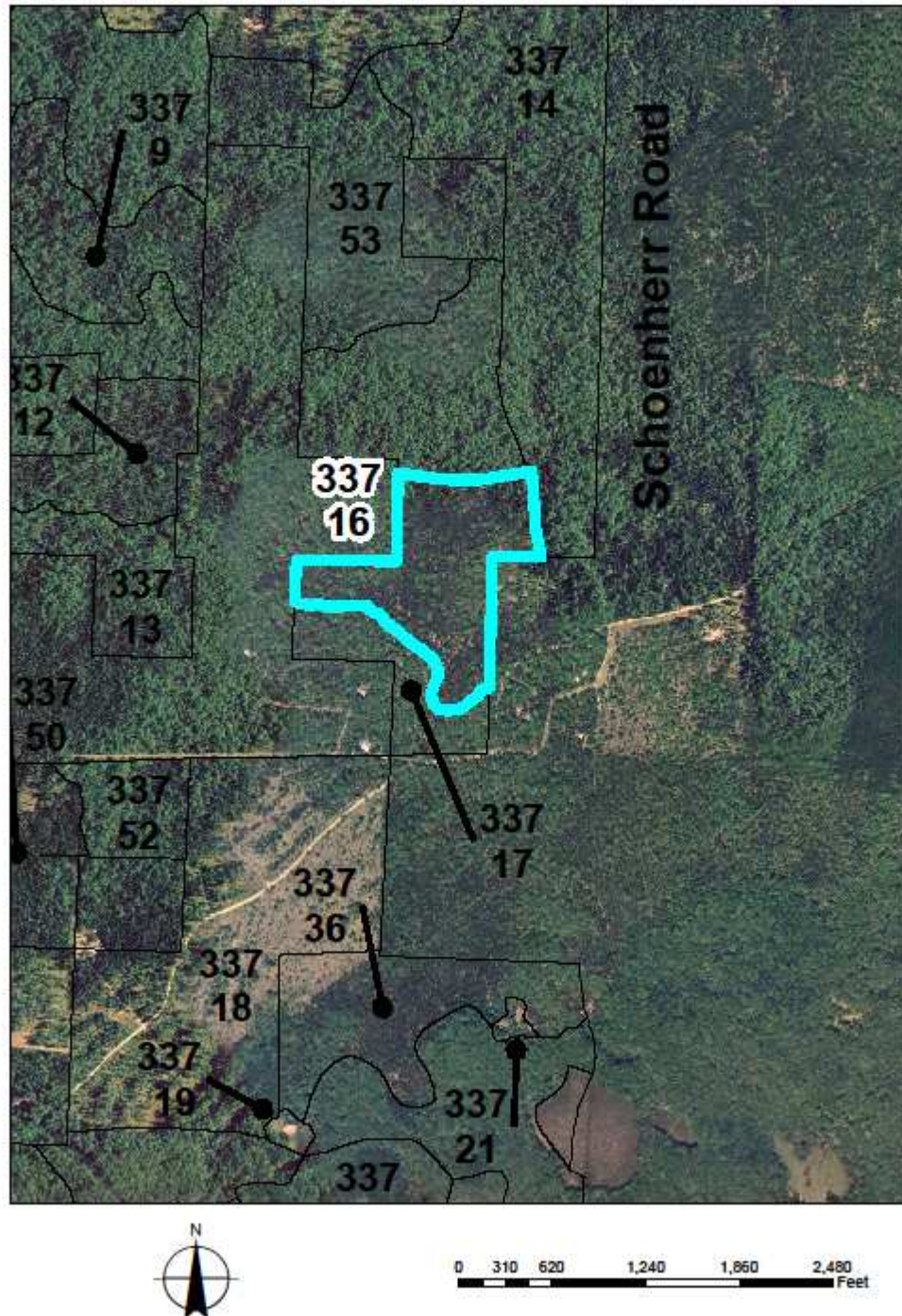
Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

Concern: Cultural resources found in stand.

Mitigation: Avoid cultural resource, which will be marked with a 20-30 meter flagged boundary prior to project initiation. If any unknown cultural resources are discovered during project activities for the proposed project or there is a change in location of the APE, then a professional Cultural Resources Specialist must be contacted.

Project work will not be allowed to resume until the cultural resources have been documented and the sites are preserved from any potential impacts.

County Line Fuels Project Treatment Unit Card 7



Treatment Unit Card 7

Alternatives: 3

Compartment: 337

Stand: 16

Acreage Treated: 28

Treatment: Shelterwood; Site prep

District: Cadillac-Manistee

Location: T20N, R16W, Sec 12; Mason County

ELTP: 10

Unit Description: A jack pine stand with a year of origin of 1940 and a basal area (BA) of 60. It is located on LTA 1 in Management Area 4.2.

Resource Prescription: Shelterwood removal cut harvest; remove decadent/high risk jack pine and oak <8" dbh. Site prep for natural regeneration by hand tool felling of all jack pine and oak <5" dbh. Retain a minimum of 30 BA of oak and pine >8" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

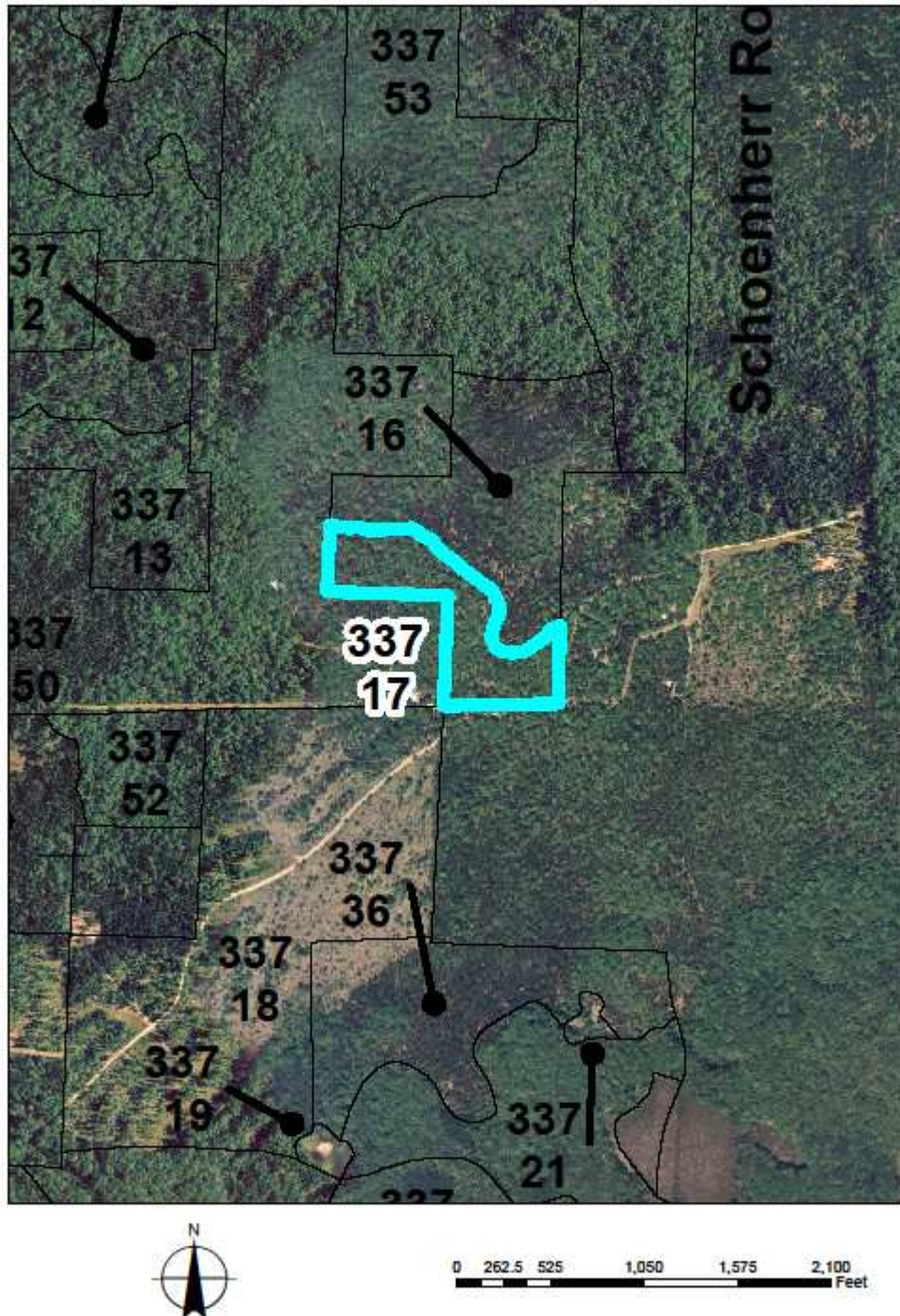
Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

Concern: Cultural resources found in stand.

Mitigation: Avoid cultural resource, which will be marked with a 20-30 meter flagged boundary prior to project initiation. If any unknown cultural resources are discovered during project activities for the proposed project or there is a change in location of the APE, then a professional Cultural Resources Specialist must be contacted. Project work will not be allowed to resume until the cultural resources have been documented and the sites are preserved from any potential impacts.

County Line Fuels Project Treatment Unit Card 8



Treatment Unit Card 8

Alternatives: 2, 4
Compartment: 337
Stand: 17
Acreage Treated: 13

Treatment: Sanitation; Pile and burn
District: Cadillac-Manistee
Location: T20N, R16W, Sec 12; Mason County
ELTP: 10

Unit Description: A jack pine-oak stand with a year of origin of 1920 and a basal area (BA) of 60. It is located on LTA 1 in Management Area 4.2.

Resource Prescription: Remove decadent/high risk jack pine; retain a minimum of 40 BA of trees >5" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Fuels Prescription: Machine pile material resulting from sanitation cut throughout the stand. Piles can vary in size and where possible should not be placed under overstory trees.

Burn the piles created during machine piling. This would take place when long range weather forecasts would insure that fire does not spread from the piles to adjacent land, usually late fall and winter.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

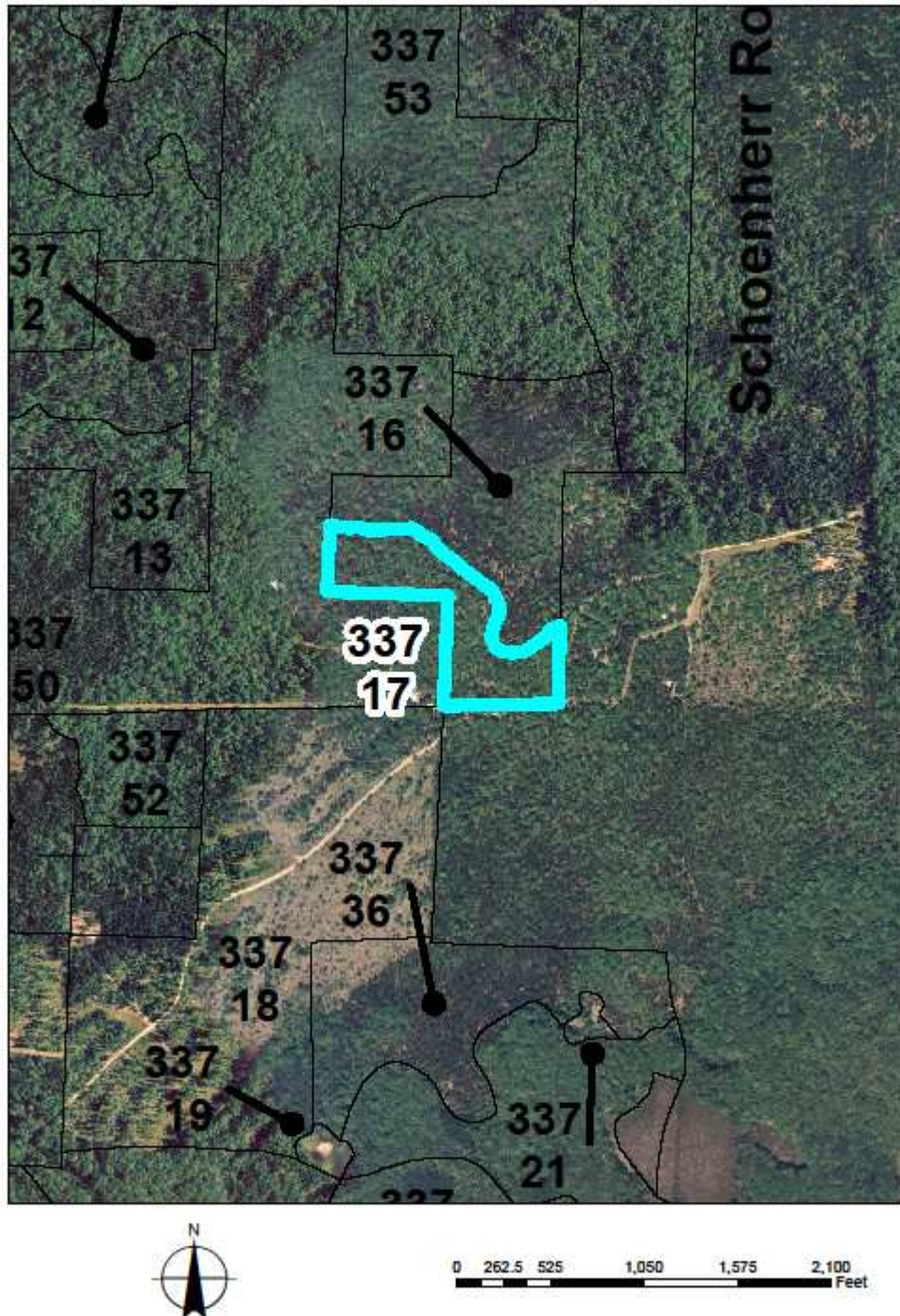
Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

Concern: Protection of bald eagle nesting areas.

Mitigation: Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.

County Line Fuels Project Treatment Unit Card 8



Treatment Unit Card 8

Alternatives: 3

Compartment: 337

Stand: 17

Acreage Treated: 13

Treatment: Shelterwood; Site prep

District: Cadillac-Manistee

Location: T20N, R16W, Sec 12; Mason County

ELTP: 10

Unit Description: A jack pine-oak stand with a year of origin of 1920 and a basal area (BA) of 60. It is located on LTA 1 in Management Area 4.2.

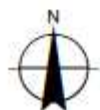
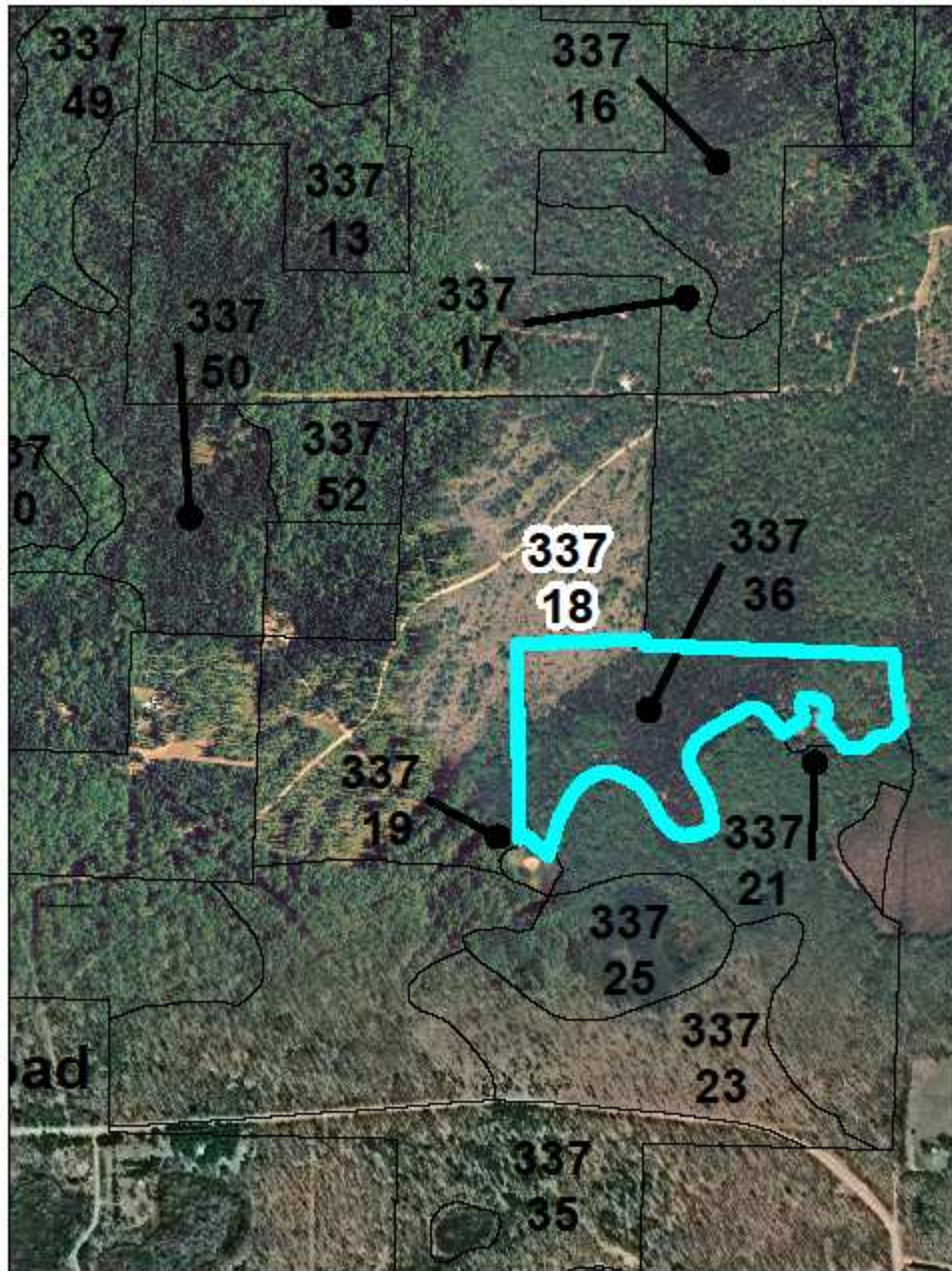
Resource Prescription: Shelterwood removal cut harvest; remove decadent/high risk jack pine and oak <8" dbh. Site prep for natural regeneration by hand tool felling of all jack pine and oak <5" dbh. Retain a minimum of 30 BA of oak and pine >8" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

County Line Fuels Project Treatment Unit Card 9



0 262.5 525 1,050 1,575 2,100 Feet

Treatment Unit Card 9

Alternatives: 2, 3, 4
Compartment: 337
Stand: 18
Acreage Treated: 5

Treatment: Corridor for timber removal
District: Cadillac-Manistee
Location: T20N, R16W, Sec 13; Mason County
ELTP: 12

Unit Description: A black oak stand with a year of origin of 1999. It is located on LTA 1 in Management Area 4.2.

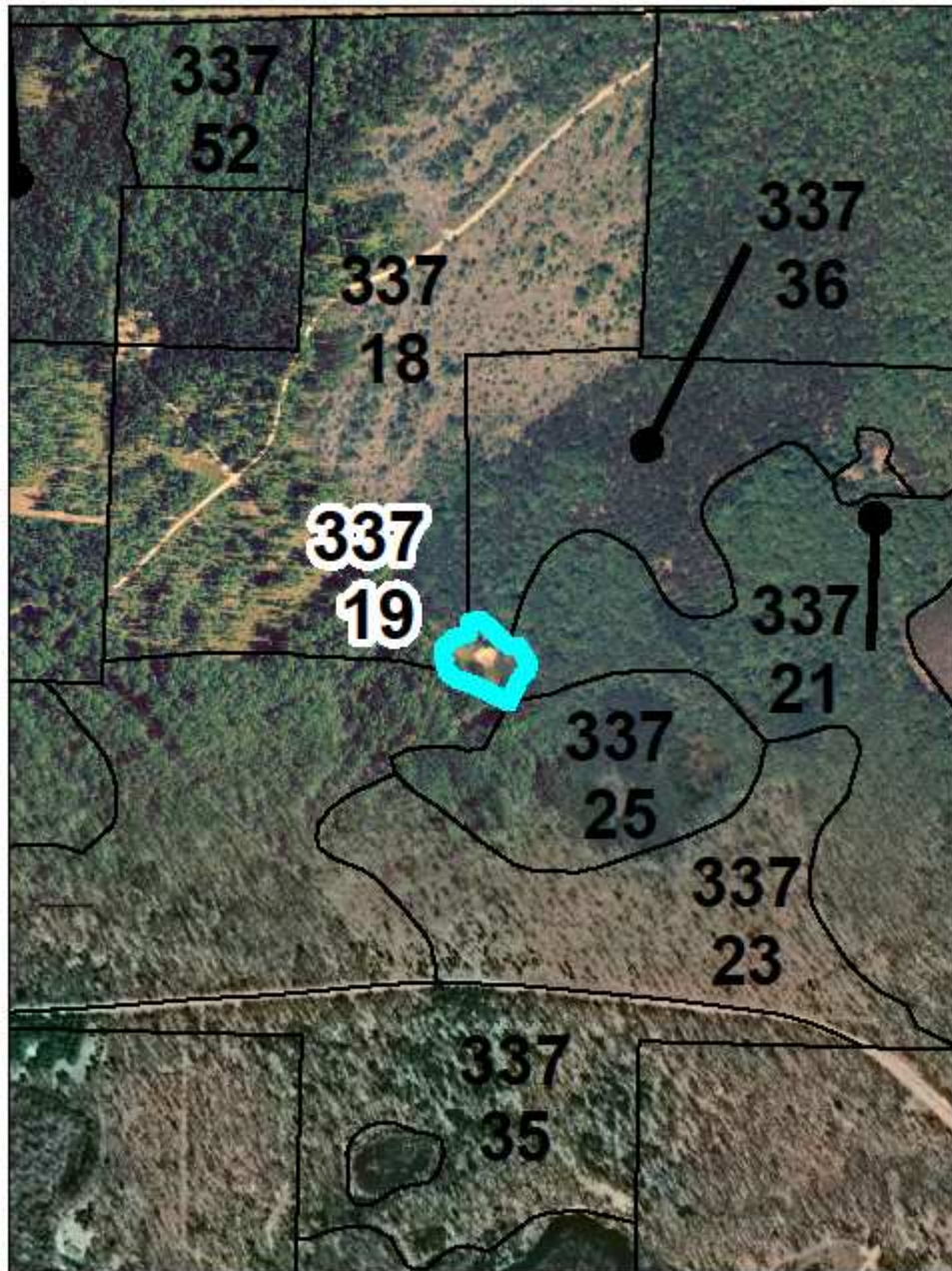
Resource Prescription: Remove all stems within a 15' wide corridor to provide access from Stark Road to harvest activities in adjacent Stand 36.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

County Line Fuels Project Treatment Unit Card 10



Treatment Unit Card 10

Alternatives: 2, 3, 4
Compartment: 337
Stand: 19
Acres Treated: 1

Treatment: Opening maintenance; Broadcast burn
District: Cadillac-Manistee
Location: T20N, R16W, Sec 13; Mason County
ELTP: 12

Unit Description: An opening located on LTA 2 in Management Area 4.2.

Fuels Prescription: A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to maintain the opening for plant diversity, reduce fuel loading, and to maintain a more open condition to allow fire fighters access to fight possible crown fires in the area. The fire intensity needed to achieve the objectives of killing tree saplings, thatch reduction, and shrub and warm season grass/forb regeneration would be generated by flame heights of 1-2'. The controlled burn would be of low intensity and be confined to the ground cover layer. The burn would be short in duration, consuming primarily grasses and litter. The prescribed burn should reduce 1 hour fuels 80% (50-90%), 10 hour fuels 60% (30-80% range), and 100 hour fuels 5% (10-70% range). Exposed mineral soil would occur on no more than 15% of the stand. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

Wildlife Prescription: Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25).

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

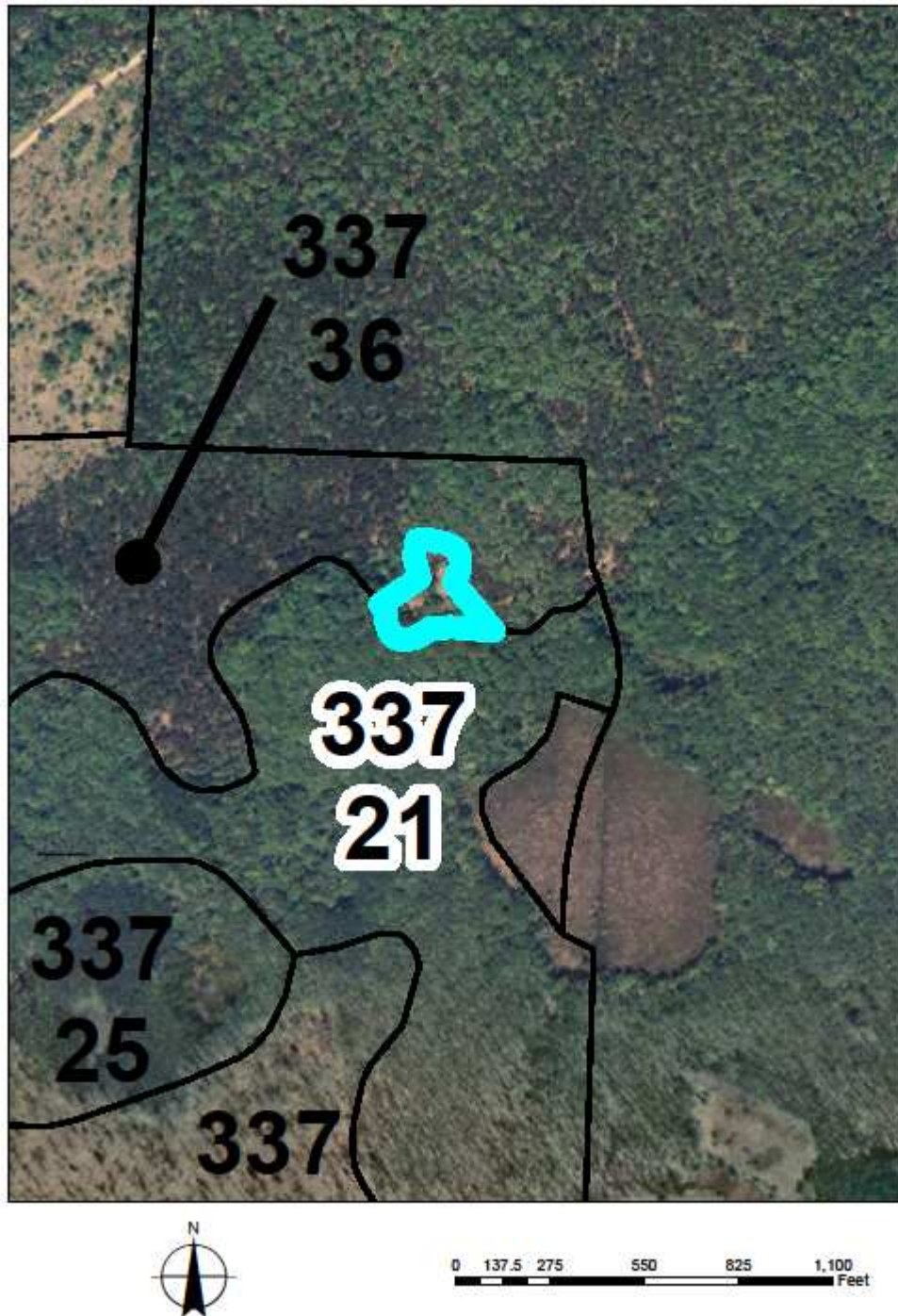
Mitigation: Prescribed burning would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts. Prescribed burns would be conducted only when smoke would be transported away from the Tippy Management Zone (TMZ) or when the majority of the smoke would disperse before reaching the TMZ to protect bats during spring and fall swarming.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Concern: Protection of bald eagle nesting areas.

Mitigation: Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.

County Line Fuels Project Treatment Unit Card 11



Treatment Unit Card 11

Alternatives: 2, 3, 4
Compartment: 337
Stand: 21
Acreage Treated: 1

Treatment: Opening maintenance; Broadcast burn
District: Cadillac-Manistee
Location: T20N, R16W, Sec 13; Mason County
ELTP: 12

Unit Description: An opening located on LTA 2 in Management Area 4.2.

Fuels Prescription: A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to maintain the opening for plant diversity, reduce fuel loading, and to maintain a more open condition to allow fire fighters access to fight possible crown fires in the area. The fire intensity needed to achieve the objectives of killing tree saplings, thatch reduction, and shrub and warm season grass/forb regeneration would be generated by flame heights of 1-2'. The controlled burn would be of low intensity and be confined to the ground cover layer. The burn would be short in duration, consuming primarily grasses and litter. The prescribed burn should reduce 1 hour fuels 80% (50-90%), 10 hour fuels 60% (30-80% range), and 100 hour fuels 5% (10-70% range). Exposed mineral soil would occur on no more than 15% of the stand. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

Wildlife Prescription: Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25).

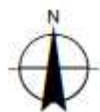
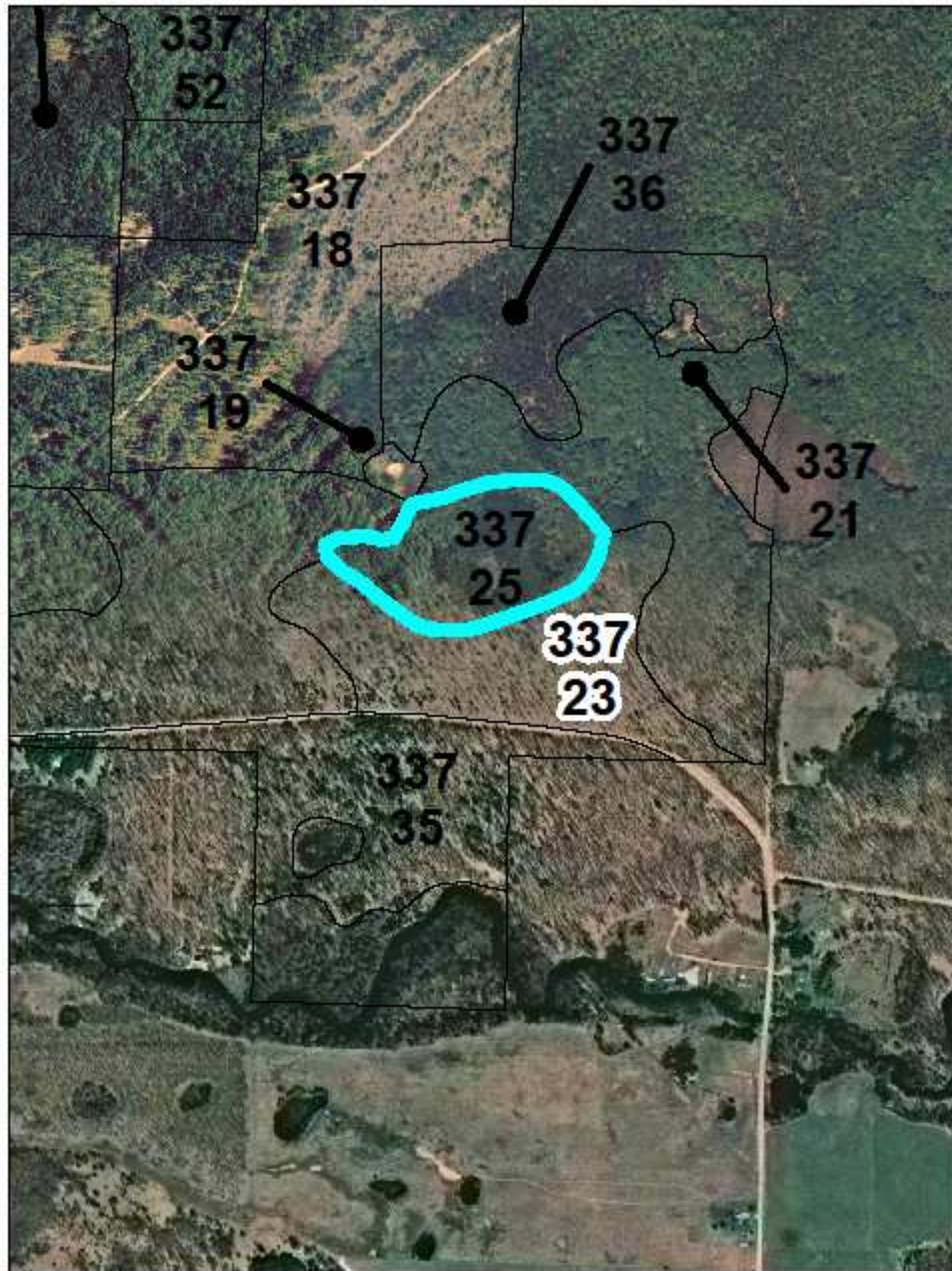
Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Concern: Protection of bald eagle nesting areas.

Mitigation: Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.

County Line Fuels Project Treatment Unit Card 12



0 195 390 780 1,170 1,560 Feet

Treatment Unit Card 12

Alternatives: 2, 3, 4
Compartment: 337
Stand: 23
Acreage Treated: 5

Treatment: Corridor for timber removal
District: Cadillac-Manistee
Location: T20N, R16W, Sec 13; Mason County
ELTP: 20

Unit Description: A mixed oak stand with a year of origin of 2002 and a basal area (BA) of 25. It is located on LTA 2 in Management Area 4.2.

Resource Prescription: Remove all stems within a 15' wide corridor to provide access from Hasenbank Road to harvest activities in adjacent Stand 25.

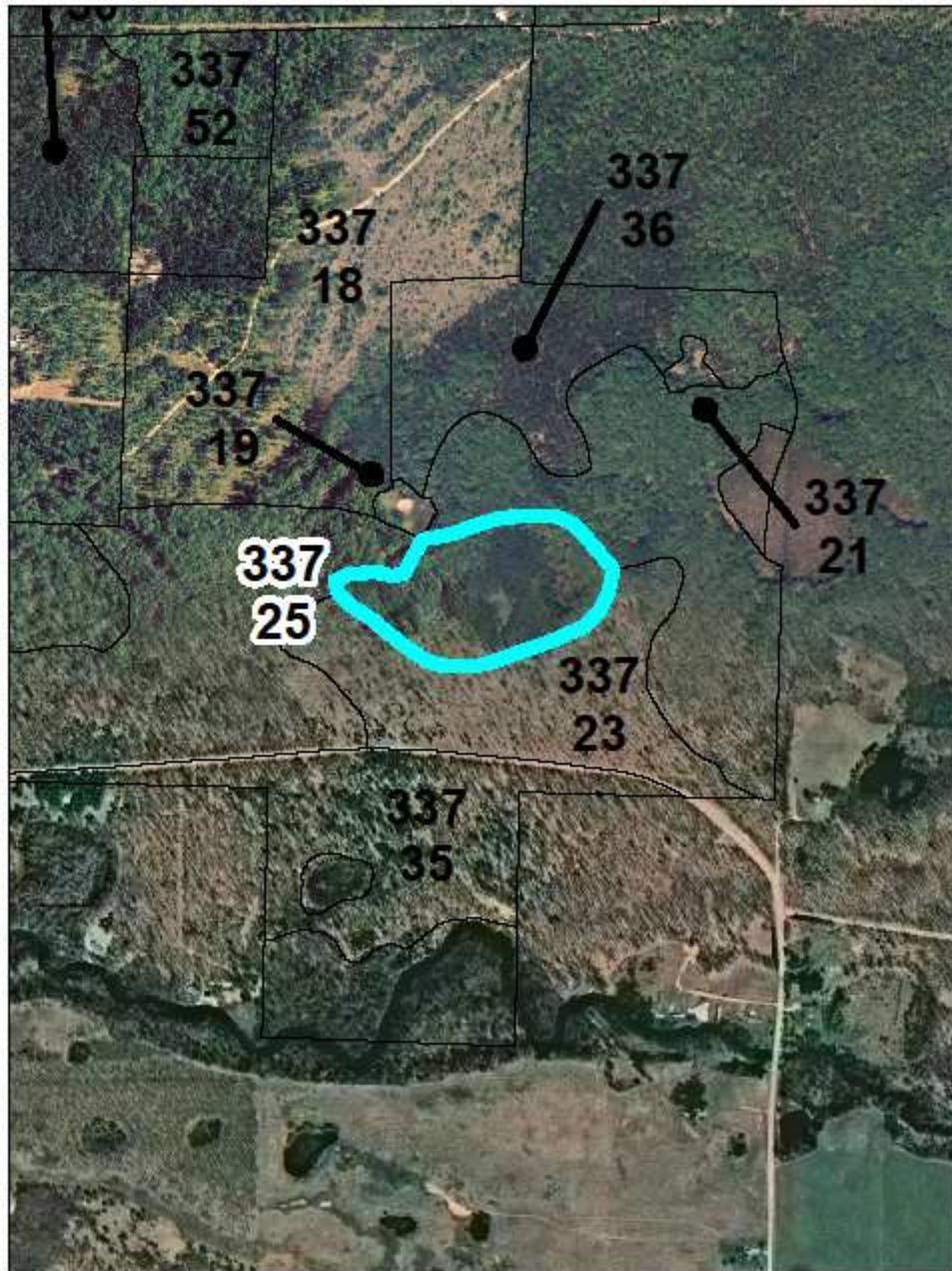
NNIS Prescription: Spot spray bull thistle (1 ac) with 2.5% glyphosate. The alternative is to hand pull. Inject glyphosate capsules into stems of autumn olive (0.01 ac) with EZ-Ject Lance or stump treatment with 10-20% glyphosate. The alternative is the mechanical removal twice a year for 3-5 years.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

County Line Fuels Project Treatment Unit Card 13



Treatment Unit Card 13

Alternatives: 2, 3, 4
Compartment: 337
Stand: 25
Acreage Treated: 17

Treatment: Clearcut
District: Cadillac-Manistee
Location: T20N, R16W, Sec 13; Mason County
ELTP: 22/25

Unit Description: A bigtooth aspen stand with a year of origin of 1977 and a basal area (BA) of 100. It is located on LTA 2 in Management Area 4.2.

Resource Prescription: Retain 10-20 oaks or maples/acre >9" dbh. Site prep for natural regeneration all jack pine and oak <5" dbh. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25). Retain native, mast producing shrubs where possible.

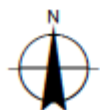
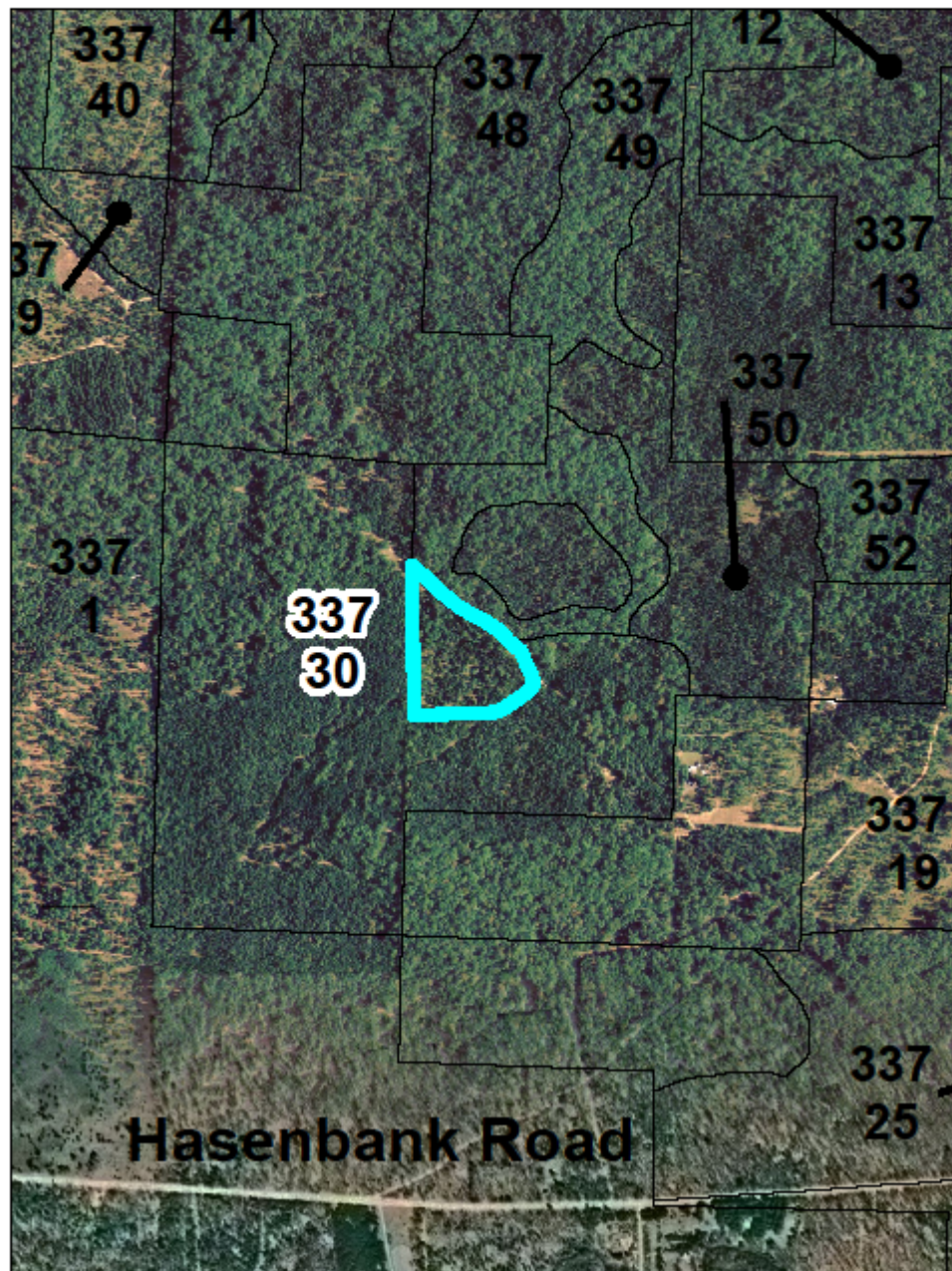
NNIS Prescription: Spot spray bull thistle (1 ac) with 2.5% glyphosate. The alternative is to hand pull.

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Mitigation: Cutting would be prohibited from May 1-August 31 to eliminate the possibility of impacting individual bats in summer roosts.

County Line Fuels Project Treatment Unit Card 14



0 200 400 800 1,200 1,600 Feet

Treatment Unit Card 14

Alternatives: 2, 3, 4
Compartment: 337
Stand: 30
Acreage Treated: 7

Treatment: Opening maintenance; Broadcast burn
District: Cadillac-Manistee
Location: T20N, R16W, Sec 13; Mason County
ELTP: 12/14

Unit Description: An opening located on LTA 1 in Management Area 4.2.

Fuels Prescription: A broadcast burn would be conducted. The prescribed burn would take place after a burn plan is written and approved for the units to be treated. Details of desired weather conditions, firefighting forces required, safety concerns, and other critical issues would be detailed in the burn plan. The objectives are to maintain the opening for plant diversity, reduce fuel loading, and to maintain a more open condition to allow fire fighters access to fight possible crown fires in the area. The fire intensity needed to achieve the objectives of killing tree saplings, thatch reduction, and shrub and warm season grass/forb regeneration would be generated by flame heights of 1-2'. The controlled burn would be of low intensity and be confined to the ground cover layer. The burn would be short in duration, consuming primarily grasses and litter. The prescribed burn should reduce 1 hour fuels 80% (50-90%), 10 hour fuels 60% (30-80% range), and 100 hour fuels 5% (10-70% range). Exposed mineral soil would occur on no more than 15% of the stand. Manage smoke to minimize impacts to smoke sensitive areas.

A series of maintenance burns may be required to reduce additional fuel buildup; encourage continued growth and sustain plant species dependent on fire; and, discourage regeneration of tree species associated with extreme fire behavior. It is anticipated that up to two additional burns spaced every 3-5 years may be required to achieve these goals.

Wildlife Prescription: Cut to remove encroaching pine and hardwoods less than 6" diameter breast height where needed to maintain opening and release mast producing shrubs/trees. Girdle larger trees where needed to maintain opening and create snags. Retain or create an average of 9 suitable roost trees per acre within the treated area based upon the priorities in the Indiana Bat Management Guidelines (Forest Plan Standards and Guidelines, pages II 23-25).

Concern: Protection of potential Indiana bats present during the breeding season and potential roosting habitat.

Mitigation: Standing snags ≥ 6 inches dbh would not be cut and/or removed unless considered a safety hazard.

Concern: Protection of bald eagle nesting areas.

Mitigation: Prescribed burning would be conducted only when smoke would be transported away from active nesting areas. See district wildlife biologist for current nest area locations and status.

County Line Fuels Project Treatment Unit Card 15

